FOR USERS OF
Windows® CE
55 New Products & Services
SEPT/OCT 1998 VOL. 1, NO. 5

HANDHELD PC

MAGAZINE
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CONTENDERS FOR THE CHAMPIONSHIPS

HEAVYWEIGHT
Hitachi HPW-200EC Handheld PC

MIDDLEWEIGHT
Philips Velo Handheld PC

BANTAMWEIGHT
Everex Freestyle Palm-size PC

REX and the Hewlett-Packard H/PC team up

ANDREW SEYBOLD Pagers, PDAs and H/PCs

- Teacher and student use the H/PC
- Lose weight using your H/PC
- H/PC and Palm-size PC working together
- Make your own H/PC database
- PLUS: Quick Tips & PC Companion Tricks

Handheld PC Magazine's TOP 10 Windows CE
Software and accessories for your PC Companion

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Now access your e-mail, calendar, address book and corporate database from anywhere!

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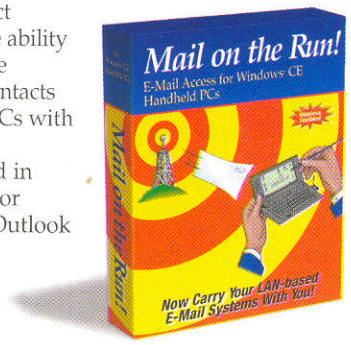
Mail on the Run! software provides unprecedented remote access to the world's most popular LAN-based e-mail systems, including Microsoft Mail®, Lotus® cc:Mail™, Microsoft Exchange Server, Lotus Notes® Mail and Novell GroupWise™. The complementary *All in Sync!*® product allows remote synchronization of calendaring and scheduling data. *Mobile*Apps™ allows a user to visually create applications that remotely access corporate databases. All products can be used over wireline and wireless networks. Now you have access to all your critical information from a Windows® CE handheld PC or Palm PC (H/PC), no matter where you are.

Full E-Mail Capability

Using the *Mail on the Run!* product you can easily send, receive, store, forward and reply to e-mail messages. You can process your e-mail while on-line, or download selected message headers and mail items for processing offline. The *Mail on the Run!* product provides sophisticated support for handling file attachments, automatically converting files into native formats and providing control over the amount of information to be downloaded. Additional features include the ability to set filters to process your mail more efficiently and minimize connect time, as well as the ability to download entries from the corporate address book directly into the Contacts application on the H/PC.

Calendaring and Scheduling

The *All in Sync!*® product provides users with the ability to remotely synchronize Calendar, Tasks and Contacts databases on their H/PCs with group scheduling and calendaring data stored in Lotus Notes. Support for Microsoft Schedule+/Outlook and Lotus Organizer® will be available soon.



Mobile Application Builder with Database Access

River Run Software Group and TechBridge Technology Corporation have joined together to create *Mobile*Apps, a powerful new technology for application development. *Mobile*Apps provides developers with an easy-to-use visual GUI builder, enabling them to create customized applications for immediate query, data update and data synchronization to any ODBC-compliant database, including Microsoft Access, SQL Server, Lotus Notes, etc.

Multiple Platforms

River Run's family of remote enterprise access software products support all versions of handheld and Palm PCs running all versions of the Windows CE operating system. *Mail on the Run!* also runs on Windows 95 laptops for wireless remote access to LAN-based e-mail systems, and *Mail on the Run!* and Corporate Connection™, River Run's toolkit for database access, also run on Apple Newton MessagePads.

Multiple Connectivity Options

Flexible communication options provide a major advantage of River Run's Enterprise Access product family. You can access your e-mail, calendar and corporate data directly or over the telephone network. By adding a Motorola PM100D wireless modem card, you can access this same information over ARDIS™, the nation's largest two-way wireless data network, covering 90% of all business activity in the US, Puerto Rico and the Virgin Islands.

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For further product information, special promotions and to download free trial software, please visit us online. For information on *Mobile*Apps, please contact TechBridge at (905) 513-7800 or www.tbridge.com.

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*The **Cross DigitalWriter** makes writing on your Hand-Held PCs feel so smooth and elegant, you'll never want to stop using it. Its polymeric writing tip gives you the patented "pen-on-paper" feel. The **Cross DigitalWriter** comes in five distinct styles: from traditional to contemporary in a variety of finishes. And all showcase the quality and craftsmanship you expect from Cross. Visit us at our web site **www.cross-pcg.com** or call **1-800-510-9660** for the dealer nearest you.*

Looks better. Feels better. Works better.

CROSS® pen computing group

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Get the Recognition

Frustrated by the Tiny Keyboard on your HPC?

...Enter Data in Your Own Handwriting!

Forget the tiny keyboards on H/PCs. Here are six great reasons for you to look at **smARTwriter® Plus** for Windows CE.

Accurate & Fast

smARTwriter Plus gives you the best recognition accuracy because it learns your personal handwriting. **smARTwriter Plus**' patented algorithm uses a unique linguistic layer that even further enhances its accuracy. Recognizes characters five times faster than the actual writing speed.

Adaptable

Write your own way! We won't teach you a new alphabet or make you write as if you were in first grade. **smARTwriter Plus** adapts to your unique writing style immediately after performing a 5 minute QuickTrainer™ session. Correct, change, add or modify any character "on-the-fly" to even further increase recognition accuracy.

Easy to use

Write naturally anywhere on the screen in any size using characters, shortcuts or gestures. Teach the system to recognize "b/c" as "because," or draw a happy face to bring up the word "happy" on your screen.

Hardware Efficient

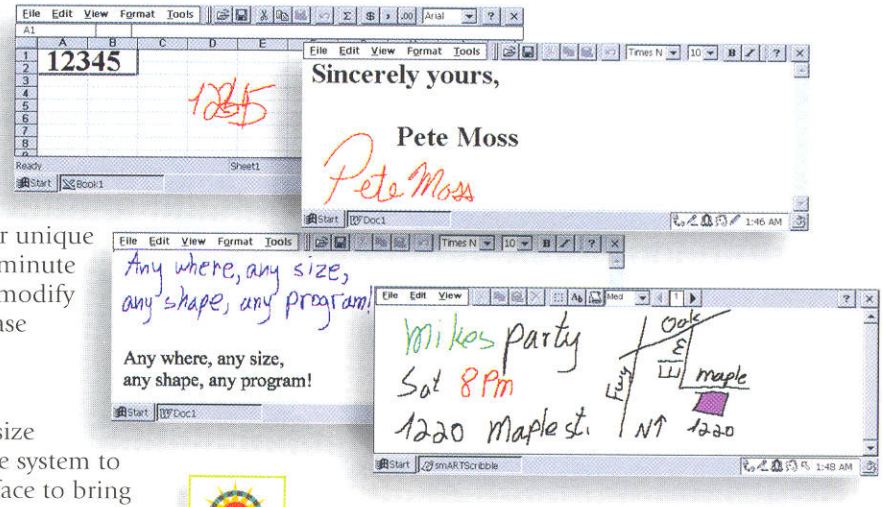
smARTwriter Plus requires minimal memory space and does not affect the processing speed of your H/PC unit.

Flexible

smARTwriter Plus comes with **smARTscribble™**, the handy utility that allows you to scribble your thoughts and notes, or even make a quick sketch!

Multilingual

smARTwriter Plus supports all Western European characters so you can write in French, Spanish, German and more.



Mobile Computing First Class Award

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FOR WINDOWS CE HANDHELD PCs

smARTwriter Plus with smARTscribble for HPCs runs on Windows CE v. 1 and 2.

Available at the ART Web site or leading resellers, including those listed below:

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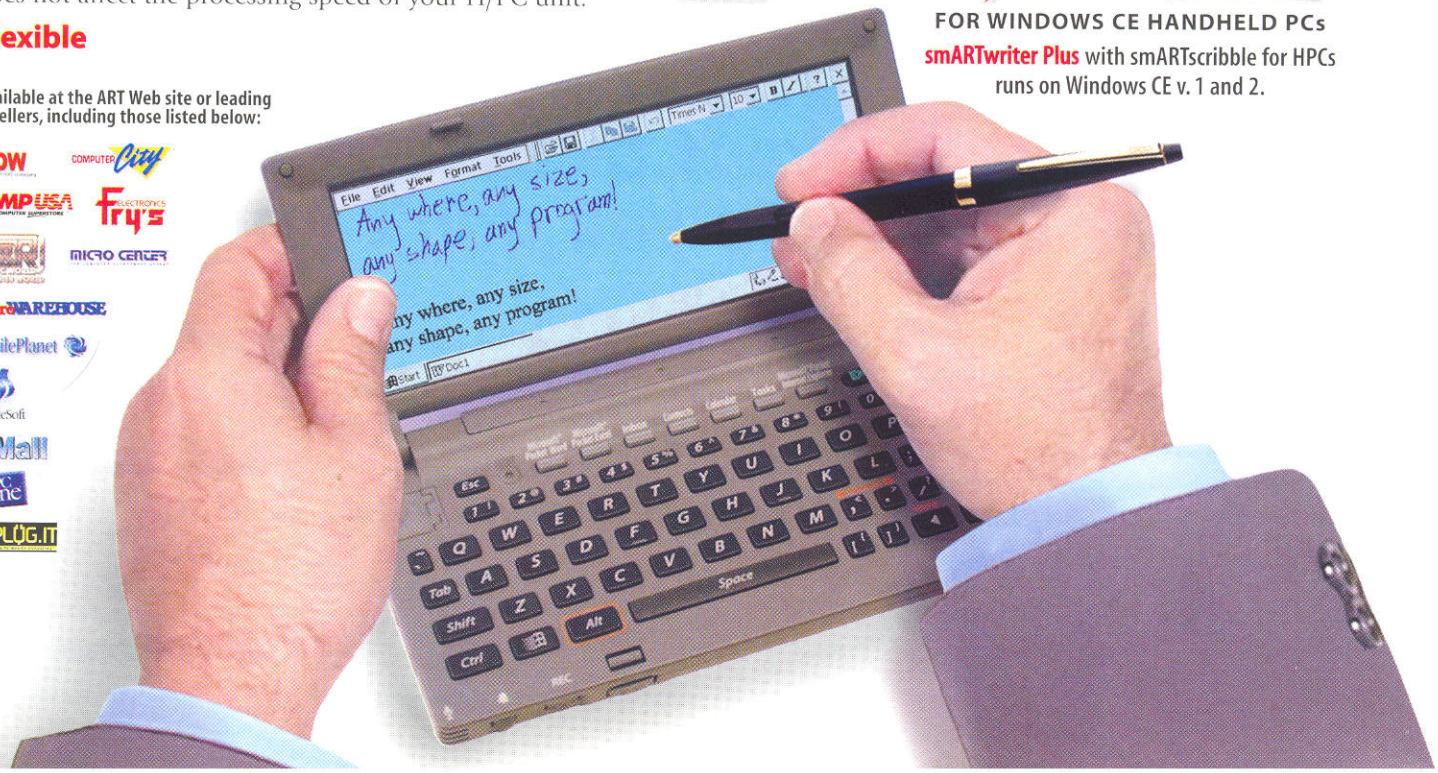
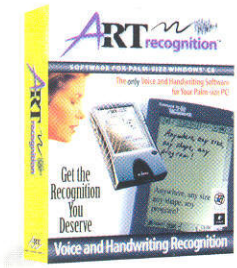
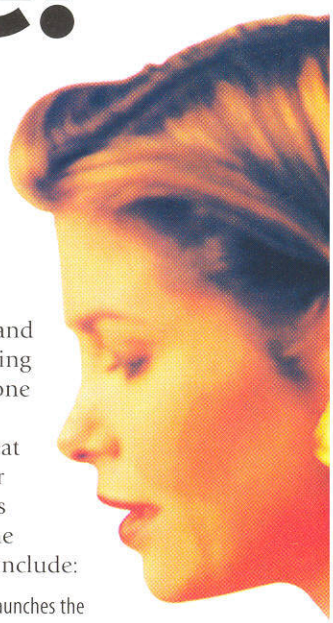


That You Deserve!



It's all Here: Voice, Handwriting, Macros, Gestures . . . in the Palm of Your Hand!



Teach Your Palm-size PC to Recognize Your Handwriting

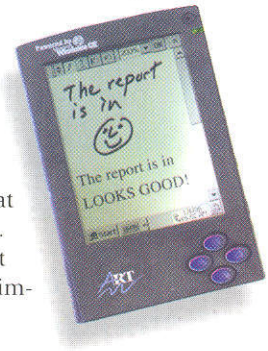
ART's award-winning **smARTwriter**® soft-:r text and data using your own printed handwriting. Forget struggling to learn how to write with graffiti characters. Your Palm-size PC will learn your writing in just a few minutes.

World's Most Accurate Recognition

It's the full version of the handwriting recognition software that earned **Mobile Computing**'s **1st Class Award**, and is the 1998 **mobilis Readers' Choice Award** winner for Windows CE software. The outstanding out-of-box recognition available gets even better as you use it, and includes ART's proprietary "Ink-Smoothing" to remove the jagged edges caused when writing in a bumpy environment such as in a car or plane.

Easiest to Use

It works with any application. Write any size, anywhere on the screen either upright (portrait) or flat (landscape).



Create Gestures & Macros

Define your own shorthand gestures that can execute unlimited keyboard strokes. Open files, launch applications or insert entire paragraphs into a document by simply writing a custom gesture you create.

PC MAGAZINE
WINNER
Golden Gavel Award
June 25, 1998

Use Your Voice to Operate Your Palm-size PC

Fast, accurate voice recognition saves time and increases your productivity. No more scrolling down lists for files, contact names, and phone numbers-just tell your palm-sized PC what you want to do! You can choose from a great collection of commands already built in, or easily create your own library of commands trained to recognize your voice! Some of the incredibly time-saving commands built in include:

- **Open** + a document or note filename to open that document
- **Goto** + an application name to launch that application.
- **Dial** + contact name from your address book to dial a phone number via DTMF tones. Supports multiple numbers.
- **Email** + contact name opens and addresses a new email form.
- **Fax** creates and addresses a new fax form. (Requires bFax Express).
- **Voice Mail** Include a voice message that will be attached to an email.
- **Show Details** + contact name to display the complete contact record in the address book.
- **Get Mail** Launches the Inbox, dials your email server, and checks on-line for new messages.
- **Calendars** launches the Calendar application and specify a view (day, week, month, year, today or agenda) .
- **Macro** Execute a user-defined macro. Use it to insert boiler plate text into a document (such as your complete name and address) and teach your Palm-size to work like you do!

ART recognition™
FOR WINDOWS CE PALM-SIZE PCs

Just Say it!

Let smARTcommand® do the work for you!

No need to scroll through your file directory or do the double-tap dance on your cluttered H/PC screen – in seconds you can teach **smARTcommand** to link a single voice command to your most frequently used applications or your favorite documents. Just say the word and your H/PC springs into action!

Includes smARTcontact®!

Say your contact's name to bring up a contact record. Say "dial" and **smARTcontact** to dial your contact's phone number or "email" to launch Internet Explorer and insert your contact's email address. **smARTcontact** works great with the Contact Manager supplied with your Windows CE-based H/PC.

Handheld PC Magazine TOP 10 for Windows CE

SmART command®
FOR WINDOWS CE HANDHELD PCs
smARTcommand with **smARTcontact** for HPCs running Windows CE v. 1.0 or 2.0

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FOR USERS OF Windows® CE
HANDHELD PC
MAGAZINE www.thaddeus.com

SEPTEMBER/OCTOBER 1998

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Its large keyboard and color screen gives this H/PC the look and feel of a small notebook computer.

12 Philips Velo 500

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This smallest of the small comes with a large number of extras.

19 The Handheld/Palm-size team

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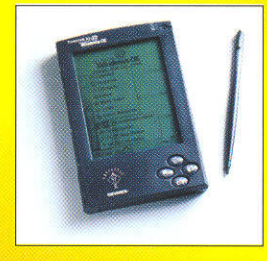

Smallest of the Small!

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Over 40 shareware, freeware, and product demos are packed on the September/October PowerCD, along with a complete HTML version of this issue of Handheld PC Magazine. Software also at www.thaddeus.com.

55 Advertisers Index

Complete listing of this issue's advertisers along with contact information.

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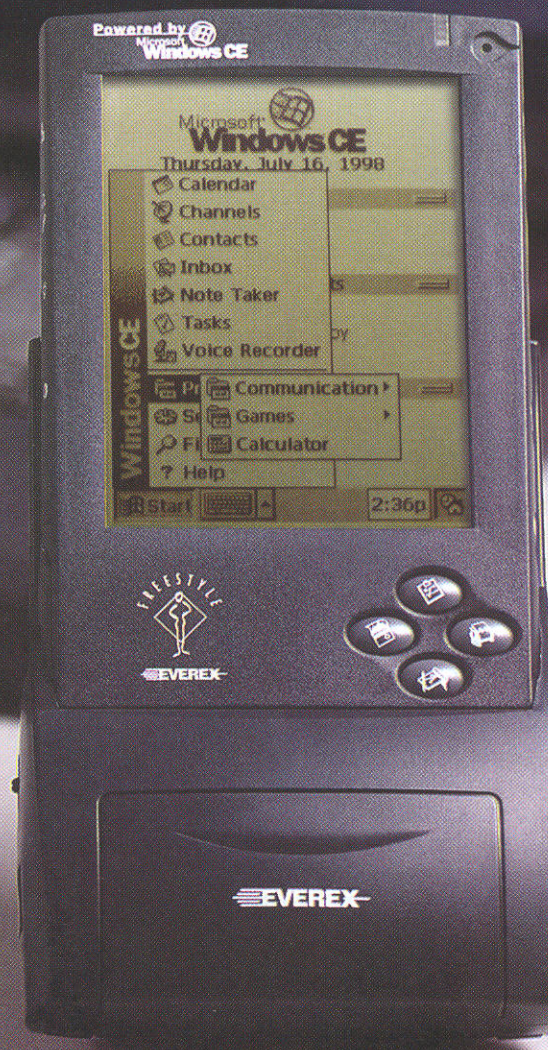

- Windows® CE 2.0 Operating System
- E-mail Capable
- Vibrating Alarm
- Voice Recording
- Handwriting/Digital Ink Recognition
- Infrared Port

- Internally Upgradeable RAM and ROM
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PCWEEK BEST OF COMDEX WINNER

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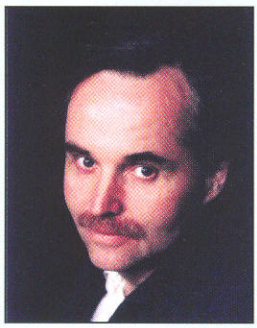

From The Editor

Rich Hall

Over a year and a half ago Microsoft began to stake out its turf in the world of palmtops and PDAs with the release of the first Handheld PCs using the Windows CE operating system. They were a compromise between size and functionality. They slipped in your pocket, but you knew they were there. They came with QWERTY keyboards, but you could only use two or three fingers on each hand. Best of all, they came with all the basic applications built in.

Twenty months, and one operating system upgrade later, Windows CE users have a lot more choices to make. This issue takes a look at three PC Companions, representing the heavyweight, middleweight, and bantamweight contenders for the Windows CE title. The heavyweight is the new Hitachi HPW-200EC Handheld PC. Like the NEC MobilePro we reviewed last issue, the Hitachi has a color display and a large keyboard that you can actually touch type on. The middleweight contender is the Philips Velo 500. Philips steered clear of the steroids, sticking with the original size and (slightly larger) monochrome screen. It still slips in your pocket and has a robust 15-20 hours of battery life. The bantamweight contender is the new Everex Freestyle. Smallest of the small Palm-size PCs, the Everex comes with a nice set of accessories and options.

But we go even smaller than bantamweight in this issue with a look at REX, from Franklin Electronic Publishers. REX is not a Windows CE device. It is an information manager the size of a PC Card that slips in your pocket and lets you access Calendar, Contact, and Task information wherever you are. We review REX because a new program called TrueSync lets users of Hewlett-Packard's 360LX, 620LX and the new 660LX slip REX into their PC Card slot and synchronize Pocket Outlook data with REX. As H/PCs get larger, they will get left behind more. We believe that users of the larger PC Companions will begin using devices like REX in tandem with their H/PCs.

We also believe that users will begin using the newer Palm-size PCs in tandem with the larger H/PCs. The common operating system, applications, and communications services facilitate this kind of partnership. Microsoft's Dave Wecker tells us how he uses the H/PC and Palm-size PC as a team.

I not only used to teach high school, I was a high school student at one time. I look back on both experiences, from the safety of many years, and think, "Gee, I could have done that better if I had had a Handheld PC." In this issue, two profiles, one from a seventh-grade student and another from a high school teacher, prove me right.

I'd like to thank Andy Seybold for another very interesting article, "Pagers, PDAs and H/PCs." Wireless communications is becoming more important to the mobile user, and paging systems are the oldest, most wide-spread wireless systems in existence. Andy describes paging systems, what they cost, and what they can do for the PC Companion user.

Finally, I've received letters and email suggesting that Microsoft should have included additional built-in software on their PC Companions. In fact, I'm one of the people who think that. For the last 20 months I've missed having a built-in, user definable database program (I've heard rumors that the next version of Windows CE will come with a Pocket version of Microsoft Access built-in). Fortunately there are a number of third-party solutions for the missing database program. In this issue we review one of them, Visual CE.

We also review a couple of excellent third-party products, and contributor Michael J Posner shares his views on ten essential add-ons for the Handheld PC. In addition, we announce another 55 third-party products, publications and services for Windows CE devices. PC Companions may not have everything you want built in, but third-party developers have done a pretty good job of filling in the gaps.

Enjoy the issue.

Rich Hall

Windows CE HANDHELD PC MAGAZINE

September/October 1998

Increasing Your Personal Power by Expanding Your Handheld PC's Potential

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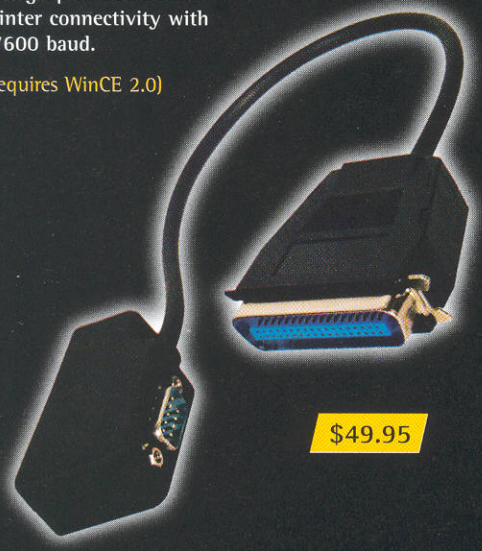
featuring *CHAMELEON CASES*

Portable printer converter

Ref.WG001

Print direct from your HPC
This serial to parallel converter uses a single 'AA' cell to save your HPC battery, giving up to 250 hours printer connectivity with 57600 baud.

(Requires WinCE 2.0)



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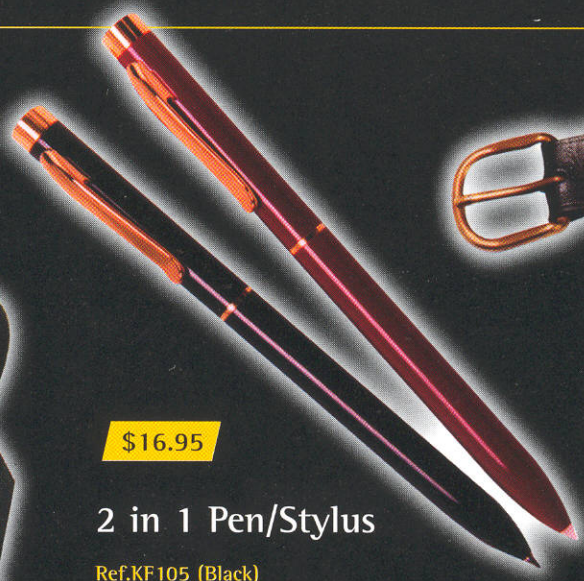


$16.95

2 in 1 Pen/Stylus

Ref.KF105 (Black)
Ref.KF106 (Burgundy)

At last, a stylus that is as comfortable to use as a pen!

Turn this ingenious pen one way and it writes on paper. Turn it the other way and it becomes a retractable stylus, designed to be safe to point or write on the touch screen of your handheld PC.

$49.95

Voyager Leather Holster

Ref.W005

Designed for maximum accessibility of your HPC, this Voyager case is ideal to carry your HPC on your belt.

- Crafted in quality cow hide and padded for maximum protection
- Removable lid adjusts easily to custom fit height of unit
- Unique expansion design adjusts automatically to width of HPC for a perfect custom fit
- Revolving belt clip secures holster and allows 360° movement with body motion

(Maximum size: 7.5x3.9x1.6")

$84.95

Mobile Communications Case

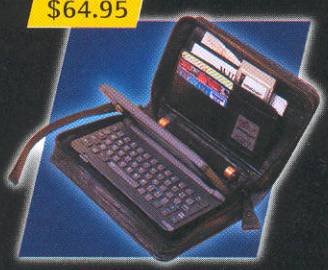
Ref.KL008

This Zipped leather case enables you to carry your mobile phone and cables with your handheld PC.

- Velcro fasteners to secure HPC and phone in position
- Pockets for PCMCIA/memory cards
- Removable universal mobile phone case
- Pockets for A5 documents
- Detachable handstrap, pen and battery holder

(Size: 10.2x6.3x1.6")

$64.95



HPC Zipped Leather Case

Ref.W001

Unzip the case, flip open the lid and use your handheld PC in the case. Protects your palmtop and provides:

- Velcro fasteners hold HPC in position while in use
- Credit/business/memory card sections
- Secure zipped pocket for valuable items
- Detachable handstrap and battery/pen holder

(Size: 7.2x3.9x1.2")

$54.95

HPC Executive -Pro Leather Wallet

Ref.W002

This smart black wallet wraps around your HPC to offer it excellent protection. It provides:

- Space for 12 credit or business card
- Mesh window for memory card
- Secure internal zipped slip pocket for valuable items
- Holder for pen/AA batteries

(Size: 7.2x3.9x1.2")

To order, please contact your nearest distributor:
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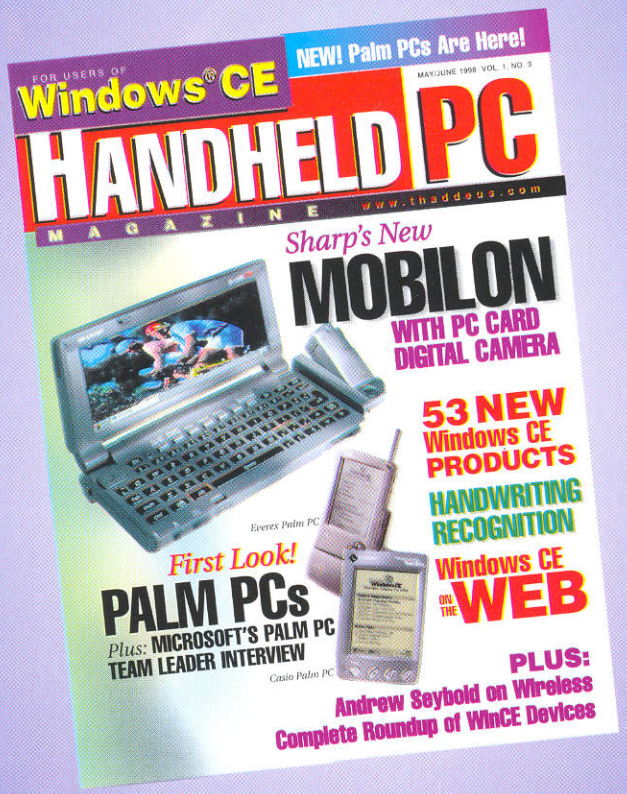
at the amount of useful, high quality content, and the range of reviewed and advertised products for Windows CE"

—Toby Lawrence



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Hitachi HPW-200EC

Its large keyboard and color screen gives this H/PC the look and feel of a small notebook computer.

By Rich Hall

The size of the package is deceiving, smaller than the one my Casio Palm-size PC came in. But safely packed in the small box is one of a few Windows CE giants – the Hitachi HPW-200EC.

The word "giant" is relative. While larger that most other H/PCs, the new Hitachi H/PC could be classified as a "mini-notebook computer." You can still carry it easily in your hand, but you'll keep it in your briefcase – not your pocket. Like the NEC MobilePro I reviewed last issue, the Hitachi sports a keyboard you can actually touch type on.

It's great to be able to touch type on an H/PC. Mobile users who create spreadsheets, write reports, and respond to a lot of email will appreciate Hitachi H/PC's large keyboard. I particularly liked the size and spacing of its keys. But a keyboard isn't everything. Let's take a more detailed look at Hitachi's new H/PC.

Just the facts

This review looks at the Hitachi HPW-200EC. This is the color-screen version of Hitachi's new line of Windows CE 2.0 H/PCs. Hitachi also makes the HPW-20E8M, a monochrome version of this unit (for more information, see "At A Glance," page 47).

The HPW-200EC has a 256 color touch-screen display, a 100 MHz CPU, 16 MB of internal RAM (expandable to 32 MB), and a large touch-typeable 74-key keyboard. The unit comes with a built-in 33.6 kbps software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Lithium-Ion battery pack; hot-start program launch keys; built-in microphone, speaker and voice recorder. It weighs less than 2 lbs with battery pack. The package includes an AC adapter; serial cable; and VGA adapter for the end of the serial cable, a modem cable, manuals, CD ROMs and miscellaneous brochures for third-party products.

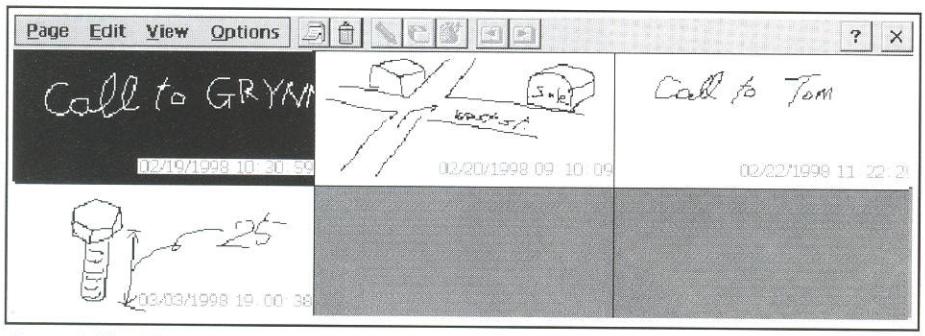
The Hitachi is a Windows CE 2.0 Handheld PC with all the associated features, utilities and "Pocket" applications.

Bonus software built into the Hitachi

The Hitachi H/PC's size differentiates it from many other H/PCs, but so does the bonus software it chose to build into the unit and include on CD ROM. The Hitachi HPW-200EC has the following additional software built into it in ROM. That means you don't have to install it and it takes up no extra disk space, except for data files it might create.

bFAX Pro & bVIEW – bFAX lets you send faxes from, and receive faxes on the Hitachi H/PC. bVIEW lets you view faxes (and other documents) on the H/PC before sending them. This software is particularly useful for mobile professionals. Many H/PCs and Palm-size PCs ship with versions of this software and both products are available commercially from bSQUARE Technologies (www.bsquare.com).

Pocket BizCalc – Adds a full-featured business/financial calculator that emulates the HP-12C. A good addition for business professionals, this program is available in H/PC and Palm-size PC versions commer-



Screen 1: Hitachi's Memo Pad lets you jot down handwritten notes and sketches. The list function displays thumbnails of the pages you've created.

cially from Odyssey Computing (www.odysseyinc.com).

Pocket Finance – Lets you track deposits and withdrawals on your H/PC. Exchanges account entries with Intuit's Quicken and Microsoft's Money desktop applications. This is the kind of application that is useful to anyone, but more so if you keep your H/PC with you all the time. The program is available commercially for H/PC users from LandWare (www.landware.com).

Bonus software on CD ROM

The following software is available free of charge on an included CD ROM. The Hitachi user must install this software.

SPRYNET Direct Internet Access — SPRYNET is an Internet Service Provider with local dial-up access in 93% of the USA and parts of Canada. This program is a complete suite of SPRYNET-access software for Windows CE, based on Microsoft Internet Explorer. SPRYNET features include: A dedicated scripting engine that automatically logs into CompuServe's worldwide network; the SPRYNET Control Panel, where all Internet-related information comes together for easy configuration in one location; SPRYNET for Windows CE local home page, linking users to special sites from SPRYNET and Microsoft for Handheld PC users. The user must have an account with SPRYNET to use this software. For more information, contact: SPRYNET; Phone: 800-777-9638; Email: info@sprynet.com; Web: www.sprynet.com

CE Speller – Lets you check spelling in most applications including Inbox email messages and Pocket Word documents. You can also look up an unfamiliar word, enter frequently used phrases by macros, and use other text utilities. It's designed to increase the Hitachi H/PC user's productivity with features such as macros for quickly entering frequently used words or phrases. As the user adds words to the custom dictionary for the CE Speller, the Pocket Word dictionary will also be updated. This product was developed by Communication Intelligence Corporation (www.cic.com), but CIC does not market it to end users.

Virtual Courier™ – This application lets you connect your Hitachi H/PC to your LAN-based MS Mail account or Microsoft Exchange client, and send or receive electronic mail messages. Virtual Courier works both locally and remotely, so you can stay in touch while you are away from the office. It requires no additional program memory on the H/PC. Users can gateway to LAN e-mail through direct dial modem, or through Internet connections. This application is available for other H/PCs. For more information, contact MicroBurst (www.Vir tual-Courier.com).

Memo Pad – A notetaker utility from Hitachi that lets you use the Hitachi H/PC as a pocket notebook for jotting down handwritten notes, making maps or sketches, or whatever comes to mind. Create new pages, edit old ones. Copy bitmap images for the document to the system clipboard. The List function displays thumbnails of the pages you've created (see Screen 1).

Screen Capture – Utility from Hitachi that lets you capture portions of your desktop PC's screen and send them to the Hitachi H/PC as a bitmap image.

VGA Driver – VGA screen driver software you need to install on the Hitachi H/PC to use its built-in VGA port to connect to external monitors for Pocket Power Point presentations.

PDF File Viewer – Adobe's Acrobat Reader installs on your desktop PC and lets you read documentation for Memo Pad and Screen Capture applications.

First impressions last a long time

I was impressed with how Hitachi got such a large H/PC, along with its accessories, safely cushioned in such a small package. I opened it, pulled out the HPW-200EC (they really should give it a name) and tried to open the case. The clamshell case pulls open. There's no latch button, just a little latch that sticks out of the top of the case and slips into a hole in the bottom of the case when you close it. I wonder if this little latch is eventually going to wear out.

When I first turned on the Hitachi H/PC, I got a message indicating the back-up battery was low and that I should replace it. I spent 10 minutes looking for the backup battery — don't bother! It's a pre-installed rechargeable coin-cell battery that is charged from the main battery or AC adapter. You need to charge it, not change it. Insert the main batteries, plug in the AC adapter and charge it for about an hour before you use the Hitachi the first time.

Like all newer H/PCs and all Palm-size PCs, the Hitachi has a Voice Recorder appli-

Starting from scratch — doing a full reset

In certain extreme cases I've found it necessary to wipe the slate clean on an H/PC and start from scratch. To do this, I pull out the main and backup batteries and let it sit for a couple of minutes. This wipes everything off the internal memory of the unit. I put the batteries back in, go through the setup procedure, and synchronize the PC Companion with my desktop PC to restore my data.

You can't do this with the Hitachi because it has a built-in, rechargeable backup battery. Instead of removing the backup battery, Hitach has provided a Backup Battery Off Switch inside the main battery compartment. It's not labeled and hard to find, but Hitachi's Handheld PC Hardware User's Guide has a diagram showing where it is. Pull out the main battery, press the Backup off switch, and wait 30 seconds. Then reinstall the main battery, press the reset button, and you're back in business. Remember, this procedure erases everything from the Hitachi's internal memory. Be sure and back up regularly in case this ever becomes necessary. *[Note: The Handheld PC Hardware User's Guide that Hitachi included with the unit is very thorough, with all kinds of technical information at the back. Unfortunately, with all this information, Hitachi forgot to put a table of contents in the front of the manual.]*

App doesn't respond to stylus? Recalibrate!

When I tested out the Voice Recorder I kept having problems launching the application from the icon on the opening screen. I was about ready to call tech support when I noticed that when I tapped above the icon it would start the application. Some how the calibration of the touch screen had slipped? This can be particularly frustrating when you are trying to tap an icon or menu item at the very top of the screen.

A quick way to access the calibration feature is to hold down the Start menu key (bottom left of the keyboard, next to the Ctrl key) and press the "I" key. You can also access the feature in the Control panel. Note that you can use the arrow keys and Enter keys to navigate and select items from menus.

cation that lets you use the built-in microphone and speaker to record and play back audio messages. The idea behind including this feature was to provide a way to make a quick note without having to open up your PC Companion — just press a button on the outside of the case and talk. While you can do this with the Hitachi H/PC, I think most people will be carrying the H/PC in their briefcase. I think this feature will end up not being used as much on the Hitachi and other larger H/PCs.

I like the Hitachi H/PC's Quick Launch keys, located on the top row above the number keys. They're big and bold, with easy-to-see icons telling you what each key is for. It might have been nice if they had stenciled the application names right above the keys. The Hitachi has ten Quick Launch keys. Eight of them are pre-programmed with the built-in applications and cannot be changed. Two keys, labeled "User1" and "User2" can be configured to launch any application you desire. This is probably enough flexibility for most users. But some of the other H/PCs with quick launch keys let you customize them all.

I tested all of the applications. The larger keyboard really shines when you work with Pocket Word and Excel documents. It's also easier to enter information into the Pocket Outlook applications, but the large keyboard is probably not as necessary here. I enter most of my contact and tasks on my desktop PC and synchronize with the H/PC. The larger keyboard comes in very handy composing email.

Is this the H/PC for you?

It all depends on how you intend to use your H/PC. I don't think I would use the Hitachi as my only machine. I've been using pocket-sized computers since 1991 and I like having something light in my pocket, to access phone numbers, to take short notes or read messages. In addition, I spend most of my time at a desktop PC. Still, it was nice having that keyboard when I went on the road to PC Expo.

I'm experimenting with using both a Palm-size PC and the Hitachi H/PC. The Palm-size PC is great for appointments, phone numbers, and quick, SHORT notes. The Hitachi's size makes it a little awkward to use standing up, but it's great when you set it in your lap or on the top of a desk or table.

The Hitachi H/PC is another good example of the "bigger is better" school of H/PC design. The color screen is easy to read and the keyboard a pleasure to use. I like the large Quick Launch keys at the top and the large, easy-to-find Backspace and Enter keys. The battery life (estimated at 8-10 hours per charge) is reasonable. I took the Hitachi H/PC with me to the PC Expo show and used it quite a bit while traveling. I charged it every evening and never got a low-battery warning.

Hitachi and other H/PC manufacturers are looking for big corporate adoption of their products. I think this "mini-notebook" class of H/PCs will stimulate this more than the smaller H/PCs or Palm-size PCs. Corporations are used to equipping their mobile professions with notebook computers. These look like notebooks and do 99% of the things a notebook does. On top of that, they have advantages over other notebooks.

- ❖ They are smaller and more portable than most notebooks.
- ❖ Their "instant on" feature lets the user access data fast.
- ❖ They have better battery life than any Windows 95/NT notebook computer.
- ❖ They come with their operating system and applications already built in. The user or MIS support person never has to install or reinstall them.
- ❖ There are a growing number of third-party applications available that add any missing functionality.
- ❖ Plenty of software developers are out there, already familiar with programming for Windows CE. If the right application doesn't exist, it will be relatively easy and inexpensive to have someone create it for you.
- ❖ Last, but never least for the corporation, these devices are at least half as expensive as Windows 95/NT notebooks.

Hitachi made a conscious decision to make data entry easier on their H/PCs. I think it will pay off by attracting mobile users that want to carry a small notebook-sized device with them, but really don't need the power or expense of a Windows 96/98 device. I think this class of H/PCs will be more successful, in terms of numbers sold, than the pocket-sized H/PCs. ■

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Philips Velo 500

By Rich Hall

All right, I was wrong — and the Velo 500 proves it. I've stated in a number of previous reviews that it seems like Windows CE devices are getting bigger and smaller at the same time. The newer NEC, LG, and Hitachi H/PCs have larger, touch-typeable keyboards; and the Palm-size PCs slip in your shirt pocket. But the fact is that the Philips Velo 500 (and a few other of the newer H/PCs) are just about the same size as they were 20 months ago when Windows CE was new and the H/PC a novelty. That's good news for many mobile users.

The Philips Velo 1 was one of the most successful of the Windows CE 1.0 H/PCs. It was particularly popular because of its pocketable size, its unique voice record capability (now standard in all Windows CE 2.0 H/PCs and Palm-size PCs), and its built-in modem.

As Windows CE 2.0 was being developed, Philips polled their users to see what improvements they wanted in the next-generation H/PCs. Velo 1 users wanted more on-board memory and better screen readability. But they did not want to sacrifice battery life or increase the size of the H/PC to accommodate those improvements. Philips designed the Velo 500 with that in mind.

The Facts: a quick look at the Velo 500

The Velo 500 is a Windows CE 2.0 H/PC with all of the associated features and applications. These include the operating system itself, the Pocket applications (Pocket Outlook, Pocket Word, Pocket Excel), various built-in utilities and applications. The Velo 500 has some unique software features that I'll discuss a little later.

The Velo 500 is powered by a 75 MHz Philips RISC processor. Two models of the Velo 500 are available. One with 16 MB of internal RAM (expandable up to 24 MB) and another with 24 MB of internal RAM (expandable up to 32 MB). Like other H/PCs, the Velo 500 comes with a QWERTY keyboard for data entry, an RS-232 serial port, and an IrDA infrared port for communications and file transfer. Unlike other H/PCs, it has no Type II PC Card slot built in. Instead, extra memory can be added via a DRAM Miniature Card, a Flash memory Miniature

Card, or an optional "V-Module" that attaches to the bottom of the Velo 500 and adds a Type II PC Card slot to the unit. The Velo 500 comes with a NiMH rechargeable battery pack, phone cable, and a docking station for connectivity with a desktop PC.

The case and most of the hardware of the Velo 500 are the same as the original Velo 1. That means most of the accessories are the same. Velo 1 owners won't have to spend a lot of money buying new accessories for the Velo 500.

Hardware: size and styling

Styling and size are the first things you notice about the Velo 500. It has a very attractive two-tone (flat black and gray) clamshell case. The black front and back of the case have a slightly rubberized texture. I like this because it makes the unit harder to drop. But I wonder if the rubberized coating will eventually start to rub off?

Philips chose to include Miniature Card Slots for additional memory, instead of PC or CompactFlash Card slots. This choice let them create the smallest and lightest of the Windows CE 2.0 H/PCs.

There are two Miniature Card slots on the bottom of the Velo 500. The RAM slot lets the user add up to 8 MB of additional System RAM to a Velo 500. The Flash/-ROM slot lets the user add a Flash Miniature Card for additional Flash ROM file storage, or a ROM upgrade. The Philips Velo store (velo.philips.com/store/index.html) sells both types of Miniature Cards.

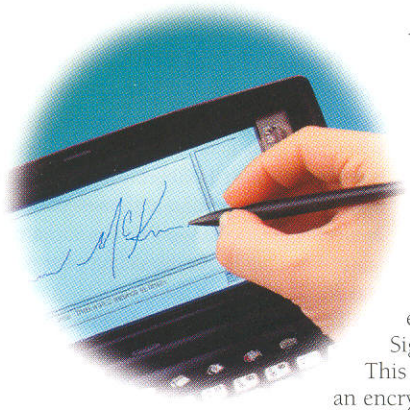
The Miniature Card Standard is different from the PC and CompactFlash Card standard that most H/PC and Palm-size PC users are familiar with. It has advantages in that the Miniature Card memory is generally less expensive than the other two standards. And as mentioned, users can add internal RAM to a Velo 500, which can be used to run programs as well as store data. PC Card and CompactFlash Card memory can only be used for data storage.

The second Miniature Card slot lets the users add Flash memory to the Velo 500. Like the memory in PC and Compact Flash cards, this memory is "non-volatile," which means that you don't lose data if your Velo's batteries die. The Philips Velo Store sells a 4 MB Flash Miniature Card for $149.95 (compared to a 4 MB CompactFlash card for $80-$90). The second Miniature Card slot can also be used for system upgrades. Unfortunately, once this second slot is used for a ROM upgrade, it cannot be used for adding a Flash Miniature Card.

Philips does provide an optional "V-Module" that attaches to the bottom of the Velo 500 and adds a Type II PC Card slot to the H/PC. But the V-Module also adds bulk and makes the Velo less portable.

The Velo 500 comes with an easier-to-read screen, but Philips decided to stay with monochrome to conserve power. The unit ships with NiMH rechargeables that give Velo users about 15-20 hours of use per charge. It's very nice that you can still slip a pair of regular AA batteries in the Velo 500, if the rechargeables do run low.

The QWERTY keyboard is small, especially when compared to the newer H/PCs with touch-typeable keyboards (see Hitachi review, page 9). But you certainly can't slip one of the larger H/PCs in your pocket. It's all a question of how you intend to use your H/PC. If you want your Windows CE device with you all the time, and you intend on entering enough data to justify using a keyboard (as opposed to using a Palm-size PC device), it's not all that hard to get used to a



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Value of Data in H/PC - Priceless
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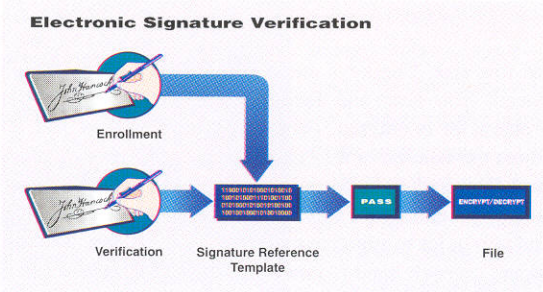

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File Storage

16 MB RAM is the limit!

All Windows CE 2.0 devices with more than 16 MB of internal RAM can be partitioned to use no more than 16 MB for internal data storage. For example, an H/PC with 32 MB of RAM can only use 16 MB of it for file storage. Since the internal storage is compressed at approximately 2 to 1, you may be able to store files totaling more than 16 MB in this space. The additional RAM can be used for running multiple applications, but very few applications require resources over 2 MB for execution. In addition, you can use the extra RAM memory to open a large number of applications simultaneously (up to 32 at once).

Contacts and other database programs require that you keep their data files in internal RAM, but unless you keep a massive Contacts database, you probably don't need extra internal memory. If you want to add data storage capability to your Handheld PC, the best way to do it is with a Type II PC Card or CompactFlash card. All things considered, a CompactFlash card is probably the better way to go. Most H/PCs and all Palm-size PCs come with a CompactFlash slot. In addition, you can get an inexpensive adapter that lets you use a CompactFlash card in the standard Type II PC Card slot found in H/PCs and many notebook computers. Note that Palm-size PCs can only use CompactFlash storage for saving Note Taker files, and Voice Messages. Additional internal memory may be more appropriate with them depending on the applications being used.

Chris De Herrera
PDCChrisD@aol.com

keyboard this size. The keys are small, but well spaced. You hear and feel a "click" when a character is entered. (You can turn off or adjust the volume of the "click" sound in Control Panel.) I've used palmtop computers and small QWERTY keyboards since 1991, and you quickly adjust to using two or three fingers on each hand to enter text.

One of the ways Philips has kept the keys well spaced is by not including a row of function keys or quick launch keys as the top row. Instead, the top row number keys do double duty. Above each number key, 1 to 0 along the top, is stenciled the name of one of the built-in applications. Hold down the Alt key and press the number key to launch that application. Philips provides the "Quick Start" application in Control Panel to customize these keys to launch any application you desire.

Software: above and beyond Windows CE

As mentioned, the Velo 500 comes with Windows CE 2.0 and all its applications and utilities – but so does every other H/PC. One of the ways manufacturers differentiate their H/PC from others is by the additional software they include with it. The Velo 500 comes with a lot of extras.

From the Windows CE Start menu, press Programs and then Velo Applications. You get a list of eight additional applications built into the Velo 500. A ninth application, Alarm, is installed from a CD ROM included with the Velo. I've listed contact information for the applications available from third party vendors. The additional applications are:

bFAX Pro – Developed by bSQUARE (www.bsquare.com) this utility lets you preview and format fax documents and then send them from your Velo 500. You can use bFAX Pro to send documents created in other Windows CE applications.

bVIEW – Also developed by bSQUARE (www.bsquare.com) this utility lets you view faxes you receive from others. Both bFAX Pro and bVIEW are available directly from bSQUARE, and come with many other H/PCs.

Characters – This utility lets you enter international characters or symbols and characters not available from the keyboard. This utility is particularly valuable if you write in Western languages other than English or need to insert Greek or other special characters from the Symbol font.

Database – The Velo is the first H/PC I've seen with a built-in database. This version of the AllPen Mobile Forms Database from Spyglass (www.spyglass.com), lets you easily create custom databases on your Velo 500. The lack of a built-in, customizable database has, in my opinion, been one of the most glaring omissions in the Windows CE operating system. Any H/PC user can buy and install this program (from www.mobilesoft.com, look for "Spyglass Mobile Forms Database v1.5 — $79.95), but my hat's off to Philips for deciding to build it in to the Velo.

FindIt – A search utility that lets you look for files based on name, file size, file creation date, or type. You can also search for files that contain a specific text string. FindIt is a simple, but very useful utility.

Reset – All H/PCs provide some way of resetting the unit, but Philips is the only one to provide a hardware button (located by the delete key) and a reset utility to do this.

Unit Conversion – A program that lets you convert between Standard and metric units for distance, volume, weight and temperature. You can also convert currency between most international monetary units.

Voice Memo – Lets you use the Velo's built-in microphone and speaker to record and play back voice memos as .WAV files. You can record up to 16 minutes of sound per 1 MB of file storage space.

Alarm – Displays the Velo 500's system time as a full-screen digital clock. You can set an alarm to play a sound or flash the LED.

In addition to these extra built-in applications, the Velo 500 ships with two CD ROMs. One contains Windows CE Services, the Microsoft software that lets you communicate and synchronize with your desktop PC. The other CD ROM contains the Alarm program mentioned above and a disk version of MobileSoft's Web site, listing software available for the Velo and other H/PCs.

If one H/PC is all you want...

The Velo 500 has a lot going for it. I like the additional applications that are built into it, especially the database. I like its battery life and the fact that you can still use good-old store-bought AAs to power it. Most of all, I like the fact that it still slips in your pocket and goes wherever you go.

The size of a handheld is a critical issue. The whole purpose of these devices is to have your important information with you whenever you need it. But if the device is too big, it won't be there all the time. One approach is to coordinate the use two mobile devices with a desktop PC. For more on this approach, check out the articles on page 19 and 41.

In the end, it may be less of a headache (and less expensive) if you only have one Windows CE device to worry about. Unless you really need the touch-typeable keyboard of a larger H/PC, or unless you can live with the more limited input capabilities of a Palm-size PC, you may have to compromise just a little on the size of a keyboard.

If one H/PC is all you want, or all you need, the Velo 500 is one of the best out there. ■

Philips Velo 500 (16 MB RAM) $599
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Smallest of the Small

The Everex Freestyle Palm-size PC

By Chris De Herrera

If you like Windows CE in a small package, you should take a look at the new Everex Freestyle, the smallest of the new Palm-size PCs. The Freestyle is Everex's first foray into the world of PDAs, and they have scored well with features such as their silent vibrating alarm and light-weight portable data cradle, and more. Let's take a closer look at the Everex Freestyle.

A quick look at the basics

This review looks at the Everex Freestyle Manager, their mid-range Palm-size PC. Everex also makes the Freestyle Associate and Freestyle Executive. The different Freestyles come with a slightly different set of accessories. In addition, the Manager and Executive have a 66 MHz processor and 8 MB of RAM. The Associate has a 54 MHz processor and 4 MB of RAM. Other hardware features, and the built-in software are the same for all three versions. More details about these versions are available in the "At-A-Glance" section on page 47.

All Freestyles have a 320x240 backlit touch screen, CompactFlash slot, serial and IrDA ports, and built-in voice record/playback capability. The Freestyle is powered for up to 20 hours of continuous use by two rechargeable NiMH AAA batteries, included with the unit. The Freestyle Manager comes with a Mobile Cradle, world wide A/C Adapter (100-240v, 50-60hz), a synchronization cable, backup battery, carrying pouch, Quick Setup guide and manual. The package also includes CD ROMs with

ABOUT THE AUTHOR

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Windows CE Services 2.1 and bonus Software (see sidebar, this page).

All Freestyles come with the Windows CE 2.0 operating system and Palm-size PC applications, including Pocket Outlook (Calendar, Contacts, and Tasks), Notetaker, Voice Recorder, Mobile Channels. The Freestyle also includes a number of built-in configuration utilities.

The Freestyle is a well-designed unit. Its thin matte black case is easy to hold and easy to slip in and out of your pocket. The Freestyle has four application-launch buttons on the face of the unit, letting you access your most important applications. By default, these are set to launch Calendar, Contacts, Tasks, NoteTaker and Voice Recorder. However, you can program them to launch any application.

Adapting to the "Finger Real Estate"

The Freestyle, like all Palm-size PCs, comes with an Action button built in to facilitate one-handed use. The Action button is actually a rocker switch that lets you scroll up or down a page (or menu items) and select an option by pressing in on the center of the button. The Freestyle has its Action button on the right-hand side of the unit. (The Casio E-10 reviewed last issue had its Action button on the left side.)

Whether this will be difficult or hard for you to use depends on how you hold the Freestyle. For example, if a right-handed person decided to hold the unit in his right hand, he would have to navigate and press the Action button with his thumb. I think it's easier to use the thumb to access the Action button, but that leaves the right-handed person with the problem of using the stylus in the left hand.

A right-handed person would probably be better off holding the Freestyle in his left hand (which isn't usually as coordinated as the right) and getting used to navigating with that hand. I hesitate saying that this is a left-handed machine, but it might be initially easier for a left-handed person to use it. Whichever hand you use, if you have the headphones plugged in, you may have a difficult time finding the backlight and Voice Record buttons on the left side of the Freestyle.

Hardware features enhance functionality

Everex has some additional hardware features that enhance the Freestyle's functionality. The serial cable and the AC Adapter can be plugged into the unit itself, or the data cradle that comes with the unit. This lets you leave the cradle behind when you travel. In addition, you can attach the Freestyle to its AC adapter and use it while you are recharging its batteries.

The Freestyle comes with a unique Vibrate alarm mode. This feature causes the Freestyle to vibrate when a World Clock daily alarm or Calendar appointment comes

Bonus software for the Everex Freestyle

Bonus software wasn't available for the unit I tested, but will be available by the end of July. Everex will ship the bundle TO ALL REGISTERED USERS who purchased the Freestyle before the bundle was available. The bundle includes the following software programs.

bFAX Express (from bSQUARE Development, Web: www.bsquare.com) Adds fax send capability to the Freestyle or any Palm-size PC. Gives you the option of sending a standard cover page, compose a new message on the cover page and send simple, one-page faxes, or add attached documents composed elsewhere. The Freestyle must be equipped with a CompactFlash fax/modem card to use this program.

bMobile News (from bSQUARE Development, Web: www.bsquare.com) Lets you connect to newsgroups and read messages online or offline. Send and receive attachments; view related messages with subject threading; move offline message to CompactFlash storage card; create messages offline and automatically post them when you connect to the bMOBILE News Outbox, and more.

bTASK (from bSQUARE Development, Web: www.bsquare.com) A utility that makes navigating among applications on Palm-size PCs easier. Once the bTASK application is launched, its icon resides on the Task bar and is launched with a simple tap. The bTASK window shows the user which applications are currently running and allows the user to switch among them easily. Open applications can be easily closed.

Quicken ExpensAble (On The Go Software; Web: www.onthegosoftware.com). Track business-related expenses on the Freestyle using an "envelope" metaphor to track each trip (or event) you attend. Optimized for the Palm-size PC with pull-down menus where necessary to speed up data entry.

Trial versions of software for the Palm-size PC

IntelliSync (from Puma Technology, Web: www.pumatech.com) Provides direct synchronization of Contacts, Calendar and Task information with a wide range of PC-based contact managers, personal information managers and group schedulers. Programs supported for synchronization include Act!, Outlook 97, Microsoft Schedule+, Lotus Organizer, ECCO, GoldMine, NetManage, DayTimer Organizer, Sidekick, and others.

eWallet (from Ilium Software, Web: www.iliumsoft.com) Store important information on your Palm-size PC. Keep identification, credit cards, calling cards, account numbers, passwords, PINs, insurance, and more in one application, encrypted for security.

Calligrapher (from Paragraph PI, Web: www.paragraph.com/) Handwriting recognition program that recognizes cursive writing or mixed handwriting. Integrates with all Windows CE applications, includes spell checker, ready to go without training, has deferred recognition capability. Includes a DictionaryEditor to modify the dictionary and InkFileFilter to convert Ink notes into bitmap graphics images.

due. It can be used in conjunction to or in lieu of the audible alarm. The Vibrate mode is very useful in meetings when want to know about an appointment without disturbing others. The vibrating is noticeable when the Freestyle is in your shirt, pants, or even inside coat pocket. You may not notice it if the Freestyle is in your outside coat pocket. The Vibrate alarm works in conjunction with the Notification LED, but you can turn Vibrate off and still use the notification LED. The green Notification LED is not very visible in normal lighting situations although it is visible under darker lighting.

The Freestyle's display is a 320x240 touch screen, just about the same size as the Casio E-10. The contrast on the E-10 is a little better, but the Freestyle is still very readable in reasonable lighting conditions. The backlight feature on the Freestyle is not bright enough to be used for extended periods of time, but adequate for a quick glance at important data.

The Freestyle's Mobile Cradle comes with an internal battery holder for a pair of AA batteries. These power the Freestyle whenever it's in the cradle, letting you use the system for extended periods of time without the AC Adapter. *[NOTE: This also saves on the life of the Freestyle AAA batteries. Use the AC Adapter when available to preserve the life of the cradle's AA batteries.]* Also, the Cradle has an adjustable stand that allows it to fold flat for traveling. There is no notification icon when the Freestyle is plugged into the Mobile cradle and the mobile cradle is using alkaline batteries. While the unit is in the cradle, the speaker is blocked, muting the sound somewhat.

The padded leatherette case provided is a little shorter than the unit itself by approximately 3/8" and dips down even further on the left side to expose the Voice Recorder button. This lets the user use the voice recorder application even when the Everex is in the case. However, it also exposes the top edge of the Freestyle to damage if you drop the unit. The front and back of the case are made of stiffer material, providing extra protection for the LCD display, no matter which way you put the Freestyle in the case.

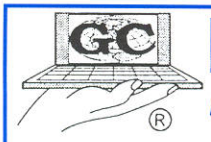
The Freestyle and all other Palm-size PCs come with an industry-standard CompactFlash slot. This lets you add Flash memory, a fax/modem, or a LAN adapter to your unit. When you insert a CompactFlash card into the slot, your Freestyle is automatically powered up and displays a message asking whether you want to use the card on battery power. (The Casio E-10 waits until you press the On button, before displaying the message.) Fax/modem and other cards draw their operating power from the unit they are inserted into. If you answer "Yes" to this question, the CompactFlash card will draw battery power from the Freestyle until the Freestyle automatically powers down. This significantly reduces your battery life, especially fax/modem and other I/O cards. If you are going to leave a CompactFlash card in the slot, leave it powered off until you need it. If you plug a CompactFlash card in and do not answer the prompt, the system will still power the Compact Flash card until the unit auto powers itself off.

As upgrades to the Palm-size PC operating become available, the Freestyle can be upgraded via an access panel in the back of the unit (the same panel that covers the backup battery). Everex recommends that users send their units in for future upgrades, but accessing the circuit board is simple and removing the circuit board and plugging a new one in looks easy enough.

The Freestyle Manager has 8 MB of RAM. The internal RAM can be used to store programs and data files as well as execute programs. By default, the Freestyle splits this RAM so that 1200 KB is reserved for data storage and 6934 KB for program memory. I recommend that Freestyle users adjust this to approximately 5000 or 6000 KB for data storage and the rest for program memory. This will provide ample memory to run the applications, and give you more room for data storage. The memory partition can be changed in the System application, found in the Settings menu.

Finally, the Freestyle comes with a jack that lets you use an optional earphones/microphone combination set. This lets you record and play back higher quality voice recordings. Note that the jack is 2.5mm, not as common as the 3.5mm which standard headphones use. The Freestyle manual says that the optional earphones/microphone combination can be purchased online at freestyle.everex.com.

Everex has done a good job in creating a Palm-size PC. The Freestyle is the smallest of the Palm-size PCs, according to prerelease specifications of others (only three have made it to market). The Freestyle has a lot of nice extras, including the vibrating



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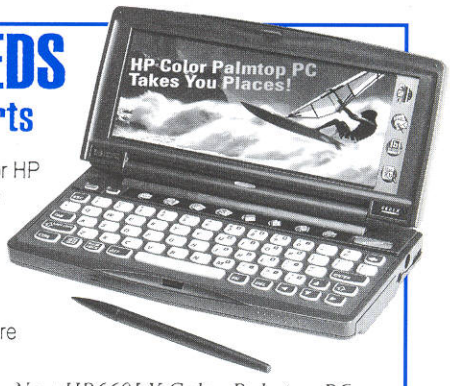

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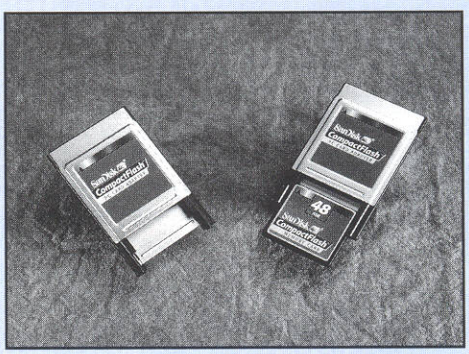
alarm and the portable mobile cradle. I thought the backlighting was only adequate and I had some problems with the placement of the Action key. But the backlighting is not meant to be used much and Rich Hall (Editor of Handheld PC Magazine) likes the placement of the Action button on the right side of the Freestyle.

If you are interested in getting a Palm-size PC, you should at least take a look at a Freestyle and make up your own mind about button positions and backlighting. ■

Everex Freestyle Available at one of the following retail locations: CompUSA Direct (800-364-1729), ComputerCity (800-992-5416), MobilePlanet (800-MPLANET), or Micron Additions (888-8MICRON). Web site: freestyle.everex.com.

Add storage memory with SanDisk CompactFlash Cards

By Rich Hall



SanDisk's CompactFlash card and Type II Flash Card Adapter let Palm-size PC and H/PC users add data storage to their PC Comanion.

I finally got to test the CompactFlash (CF) slot in the Palm-size PC, using a SanDisk CompactFlash storage card. The Everex Freestyle and all other Palm-size PCs come with a built-in CF slot that lets you add storage memory or another CompactFlash-sized I/O device like the new CompactFlash fax/modems or LAN adapters.

SanDisk introduced the CompactFlash in October of 1994. The initial product was a Flash storage card, which added file storage memory to devices equipped with a CF slot. SanDisk has since released a Type II adapter, which lets you use a CF card in a slot designed for the larger Type II PC Card. Flash storage is non-volatile meaning that no battery power from the card or the device using it is needed to retain data. This differs from H/PC and Palm-size PC internal RAM storage, which loses all its data if both main and backup batteries die. You cannot use CompactFlash memory for running programs, only for storing data.

CF cards are about the size of a large, fat postage stamp (one-fourth the size standard PCMCIA Type II PC card). CF cards weigh about one-half ounce and are 36 millimeters (1.4") long, 43 millimeters (1.7") wide and 3.3 millimeters (.13") thick. CF is available in 2, 4, 6, 8,10,15, 20, 30, 40 and 48 Megabyte capacities. *[NOTE: SanDisk recently announced their new "Double Density" technology, and now have CF cards up to 60 MB capacity. See page 31 for more on this.]*

Be careful inserting CompactFlash – never force it!

I tested the CompactFlash card with an Everex Freestyle. The Palm-size PC has a CF slot in the top of the unit. The Freestyle has a little plastic tray inserted in the slot, to cover the opening into the Freestyle and protect it from dirt. Leave the tray (or whatever covering your Palm-size PC or H/PC uses) in place unless you are using a CF Card.

I had a little trouble figuring out the correct way to insert the card. The end with the pin connector (two rows of tiny holes) slips into the slot first, but the back of the card faces the front screen of the Freestyle. This is the opposite of Cassiopeia Palm-size PC where the front of the CF card faces the front of the E-10. I have no idea how the other Palm-size PC manufacturers are going to orient their CF card slots, so be careful inserting a CF card. If you meet resistance slipping it in, stop! Don't force it in! Pull it out, turn it around, and try again. The card should slip almost all the way in before it touches the pin connector on the inside of the device. Then push down just a little until you feel the connectors seat.

Works with all Palm-size PCs and many H/PCs

Once the CF card was in, everything worked fine. The only built-in applications able to save data to a CF card are Note Taker and Inbox. You can save Note Taker messages on the CF card, in the resident Note Taker format (.PWI), as well as TEXT (.TXT) or RICH TEXT (.RTF) formats. And if you used your Palm-size PC to read a lot of email, the CF card is a handy location for storing messages. In addition, there are some third-party programs that let you store data files on the CF card.

One thing I did use the CF card for was to transfer files. My desktop PC has a built-in Type II PC Card reader. I used the File, Save As option in Note Taker to save a number of memos to the CF card (in .TXT and .RTF formats). Then I pulled the CF card out of the Freestyle, inserted it into the Type II adapter I mentioned earlier, and inserted that into my desktop's PC Card reader. I was able to open the memos in MS Word. I edited and saved the memos, pulled the CF card out of the adapter, put it back into the Freestyle and opened the edited memos in Note Taker without any problem. Note Taker will read any document saved in TEXT or RICH TEXT format.

CompactFlash is more useful on an H/PC. Most of the newer H/PCs come with a CompactFlash slot and a Type II PC Card slot. CF cards can be used as is in the CF slot, and with an adapter in the Type II PC Card slot. You can store Pocket Word, Excel, and PowerPoint data files on the CF card, as well as use Windows CE Explorer to move data files from the internal memory to the CF card, and back again. There are even utilities available that let you do a complete system backup from your H/PC to the CompactFlash card.

Many Palm-size PC and H/PC manufacturers sell CF cards as accessories. They are also available from computer resellers. For more information on where you can buy CompactFlash cards, visit SanDisk's Web site: www.sandisk.com/cons/how.htm.

Using the Handheld PC and Palm-size PC as a Team

By Dave Wecker

I was the Principal Engineer for all the Mobile Electronic devices (Palm-size PC, Handheld PC and Auto PC). As such, I've been in the fortunate position of having one of every PC Companion out there to play around with. I get to see them at their best and worst, and after the excitement of the development process is over and the device ships, I only keep what I'm going to use. As it turns out, I'm using both the Palm-size PC and the H/PC every day.

To every thing there is a season

I usually carry the Palm-size PC in my pocket everywhere I go. (I left it home one day and actually called my wife to bring it in because I was lost without it.) I take it with me when I go to lunch or lectures. It's like a wristwatch in that it's always with me and tells me what I need at a glance. I do all of my Personal Information Management interaction (Calendar, Contacts and Tasks) on the Palm-size PC. It is very quick to access and is always with me for just that purpose. In the car I use the Palm-size PC for voice notes when I think of things while driving. I read my email on the Palm-size PC while walking my dogs in the morning.

The H/PC is more of an office tool for me, targeted for specific purposes. I take it to all meetings and on short trips where I don't want to carry a laptop. I use it whenever I need to type in a lot of information (meeting notes, for example), or when I need to refer to office data (Word or Excel files). I've recently switched over to one of the larger H/PCs with a built-in VGA port. The keyboard is easier to type on and the VGA port lets me do Pocket PowerPoint presentations without having to lug my laptop around.

Keeping my PC Companions in sync

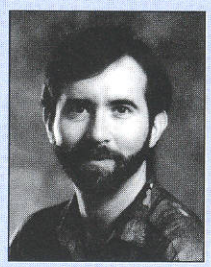
I keep Pocket Outlook information on both devices, so it's important to keep them in synchronization. But to be honest, I don't think about it much. When I'm in my office (or at home) I leave my Palm-size PC in its data cradle with ActiveSync set to continuous synchronization. (From the Tools menu of the Mobile Devices application on your desktop, select ActiveSync Options and check the box labeled "Automatically synchronize if data is out of date.") Whenever I enter or change Outlook data on my desktop PC, it is immediately synchronized with my Palm-size PC.

At least once a day I connect my H/PC to my desktop via the connectivity cable and let it synchronize the days information. Since everything is synchronized through my desktop, all my information stays up to date and current. On short trips I synchronize remotely. It's simple, I just dial in over the built-in modem (or a PC card) and initiate an ActiveSync from the communications menu. This automatically hooks up with my desktop (back in the office) and updates any changes made on either device (or the Exchange server). The only thing to be careful of is to remember to leave my desktop running (future versions will allow synchronization directly to the Exchange server)! On longer trips I take my laptop PC along and synchronize with it. I synchronize the laptop remotely making sure it has an up-to-date copy of my desktop PC, and then synchronize my other devices with it. That way I only need to make one phone call to have all of my devices up to date (laptop, Palm-size PC and H/PC). I always have Active Sync turned on, that way any documents that I edit or create on a trip automatically get backed up to my laptop (and desktop).

H/PC, Palm-size PC, or both?

The H/PC is designed to be an Office companion. It's meant for input-intensive tasks (taking notes, editing documents, replying to mail, working on spreadsheets.). The Palm-size PC on the other hand is designed for information on the go. I think of it more like my old paper DayTimer. I use it for quick reference. I take quick notes (ink or voice), enter business card information into the Contacts list and read Channels and email.

What I haven't played with a lot is tight (daily) integration of the Auto PC into this routine. I will be putting one in my car shortly and look forward to seeing how it will compliment my other devices on a daily basis. I just can't wait to see how much of a problem speech recognition is going to be in my convertible (oh well, that's what beta testing is all about)! ■



About The Author

Dave Wecker has been the Principal Engineer for the PC Companion product line (Handheld PC, Auto PC and Palm PC) as well as being the Development Manager for the Palm PC. He has recently moved to the Desktop organization where he is now the Architect for the Intelligent Interface Technologies group. He graduated from Carnegie Mellon with a BS in Electrical Engineering and an MS in Industrial Administration. After working for a few years as an International Business Consultant in developing countries he spent 13 years at Digital Equipment Corporation developing database and knowledge-base products and ending up at the Cambridge Research Lab heading speech recognition research. At Microsoft Dave has worked on video postproduction, broadband MSN and H/PC v1 & v2. His hobbies include scuba diving, fly fishing and Telemark skiing. Dave has been married for more than 15 years.

Staying on Top of Middle School with my H\PC

By Kirk Cowgill

Teachers sometimes wonder what we students carry in our bulging backpacks besides books. In my case, I carry a secret weapon that helps me deal with pop quizzes, book reports, and other hazards I face on a daily basis. I use my secret weapon to track my assignments, take notes, and have a little fun. What's in the backpack? My NEC MobilePro 700 handheld PC.

Replacing my school agenda and staying more organized

The first thing I did with my H/PC was replace my school agenda. The agenda is a little binder we use to keep track of homework assignments, grades, and notes. My H/PC completely replaces it. I write down assignments in Tasks and enter when they are due in Calendar. When I completed the assignment, I check it off in Tasks. If the assignment was graded, I enter the grade in the Task item. I can do all of the things my old agenda can do and more, and I don't have to carry around a heavy binder. Tasks and Calendar make me more organized in school.

Homework more efficient

My NEC MobilePro has also replaced the notebook I use for written assignments. I write all of my class notes in Pocket Word. During class, my teacher gives us time to work various assignments and reports. Before the MobilePro, I would write my report on a piece of paper and then re-enter it on a desktop word processor when I got home. Now, I type it in once on the H/PC, spell check it, and print it up when I get home.

All of my regular teachers like my H/PC, especially my science teacher. They like the fact that I save lots of time using it. But substitute teachers don't always appreciate it. The come in, don't understand what it is or why I'm using it, and want me to put it away. I think some of them just don't like new things and want old traditional pencil and paper.

Spare time more fun

Sometimes, when I'm bored at home or have spare time at school, I whip out H/PC and start playing a game of solitaire. I have Microsoft's Windows CE Entertainment Pack installed, with Minesweeper and several games I can tinker with. My dad downloaded an old game called Zork and put it on my H/PC. Zork is an old text-based adventure game from the early 70's. You are presented with a situation, you type in the action you want your character to perform and the game replies with the consequences and next situation. I enjoy the game and it gives me something to do when I'm bored. [FrotzCE is a freeware program that lets you run interactive, text-based "infocom" games on the H/PC. It comes with Zork1, Zork2 and others. For more information, contact www.pyram-id.demon.co.uk.]

My friends really like my H/PC; they especially like playing Zork! I don't let them use it by themselves, but I do play games with them. Some advice: treat your H/PC the best you can and don't let others borrow it or let it out of your sight. I have broken computers and they are not fun or useful.

Homework, research, and staying in touch with friends

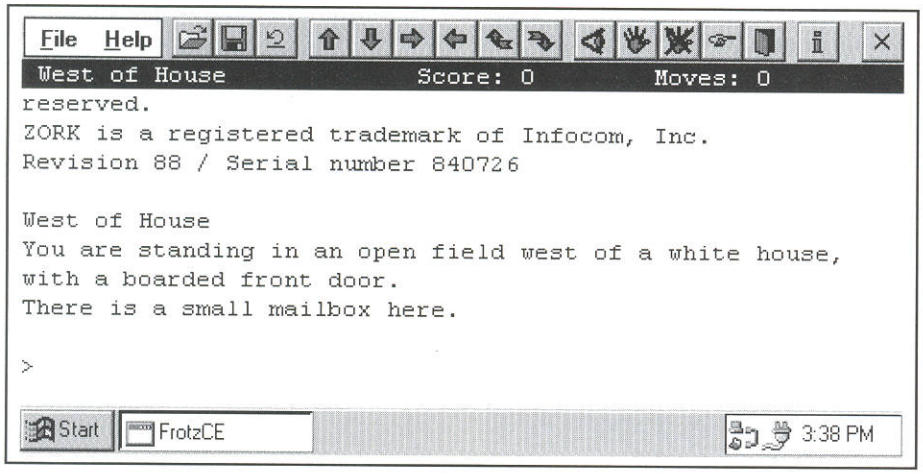
Every night, I use Pocket Word to do my homework. Handwriting a three-page essay isn't easy. Pocket Word eliminates the fatigue, saves time, and saves space in my backpack. I use the Internet to research reports. I log onto the Internet using the MobilePro's built-in modem and use Yahoo! to search the topics I'm writing about report (ancient Rome, Mollusks, whatever). I don't bother saving URLs or Website names, I just log onto Yahoo! and search. I also "talk" back and forth with friends using the H/PC's built-in email feature. I can do this at school also because there are phone jacks all over the library, but I don't have permission so I just dial in from home.

Impressions and advice

I really like the MobilePro. It's small enough to fit in my backpack, even when I have lots of books. It's rugged enough to take with me on field trips, or to restaurants when my family goes out to eat. And if I

About The Author

Kirk just completed 7th grade at Peterson Middle School in Sunnyvale, California. He has a black belt in Dai Shin Do Karate, a hybrid martial art. He also plays piano, clarinet, and violin. In his spare time he likes to play computer games, and is currently fascinated with StarCraft and Deadlock II.



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remember to charge my NiMH batteries each night, I don't have to ask my dad to buy me another pack of "Copper Tops."

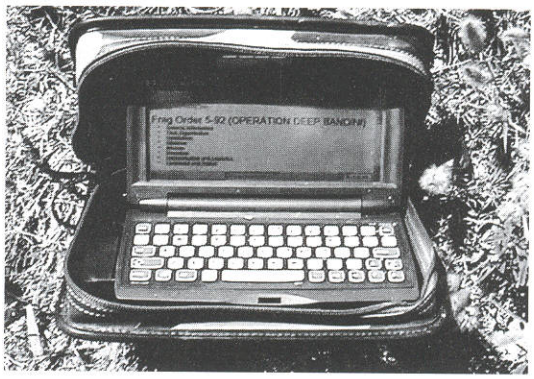
I also like the ability to access the Internet using the built-in modem. However, there are times when I'd like wireless capability. There's a phone jack in our science class, but it doesn't work. Last year my teacher said that if the district fixed it I could go online in class to find out about things in science. Unfortunately, all last year they never fixed the phone jack. A cellular modem with Internet and email capability would be nice.

I think I started something at school. Since I started bringing the H/PC to school my friends have started using little electronic organizers and little handheld gaming devices. I've even seen the girls using pocket computer diaries. And of course, everyone uses pocket calculators.

At first, I though my H/PC would replace my pocket calculator. It was there on my H/PC whenever I needed it, and it could handle bigger problems than the pocket calculator. But I started getting tired of having to pull out the stylus and tap the screen to do my calculations. It's much faster to pull out my pocket calculator and press buttons. I tend to use a regular pocket calculator for most of my math.

My advice to students using H/PCs or other computers is to try and use it whenever you can. It will save you lots of time rewriting assignments, and leave you more time for the important stuff – like Zork! ■

KIWIGREEN — "Good To Go!"



Kiwigreen Mobile Executive Case for HP Palmtops

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More time to teach with the H/PC

By John Woodring

One of the things I hate about teaching high school is that you don't get to do as much teaching as you'd like. The amount of paperwork needed to maintain grades, parent contacts, etc, is staggering. On top of that, you have to come up with ideas for student assignments. And on top of that, with today's instant gratification society and short attention spans, you have to give students quick feedback on their assignments before their attention goes somewhere else. Classroom computers (mostly desktops) have helped in recent years, but they have limitations. Students are (or should be) using them for writing and researching assignments. This means that the teacher usually has to wait until after school to plan lessons and update grades. Another problem with desktop computers is they never seem to be there when you need them to provide needed information for parent conferences or phone calls.

My first experience with "long distance" teaching

In the fall of 1997, a close family member was hospitalized in another city for an extended stay. This required me to travel often and miss class on occasion. I soon realized that a portable computer would be handy to create and send lessons back to my classes when I was away. I had been faxing and e-mailing lessons from my desktop PC at home to school for years whenever I was absent, so I knew the concept would work. My first thought was to buy a notebook computer. However, I never could justify the cost for a computer I would use only occasionally. (Remember I am living on a teacher's salary!) Then I took a hard look at H/PCs using the Windows CE operating system. I had read about Windows CE and liked what I saw. The operating system and all the applications I needed, such as a word processor, personal information manager, and spreadsheet, were already built in to the unit. It could connect to the Internet, letting me send and receive email and surf the Web. Best of all, it was over a thousand dollars cheaper than the notebook computer I was looking at. I purchased a Casiopeia A11+ and a US Robotics Megahertz 33.6 PC card modem and I was ready to hit the road.

Staying on top of grades

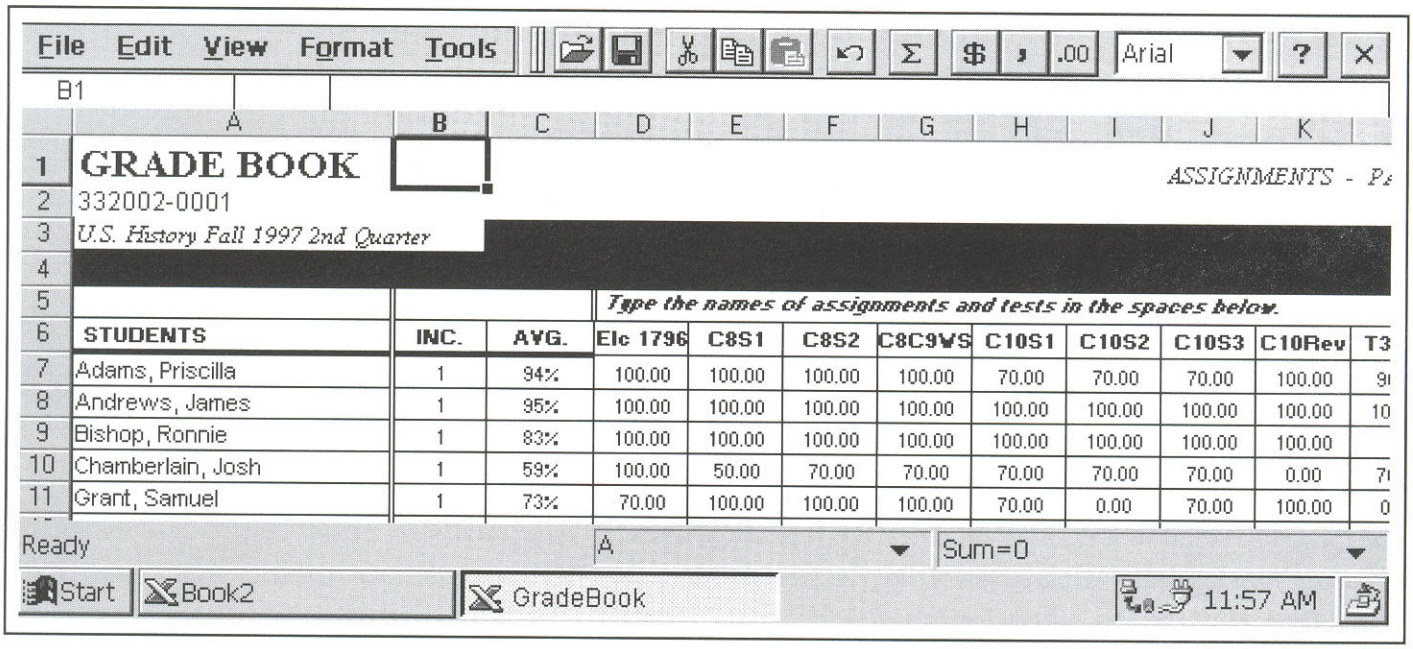
Pocket Excel was the application that attracted me to Windows CE in the first place. One of the first things I did was to adapt a spreadsheet I kept on my desktop PC, for use in Pocket Excel (see Screen 1). I used the Microsoft Works spreadsheet on my desktop to track assignments and figure out grades. I had always thought that it would be effective to have it with me in class so that I could check homework or other assignments, enter the scores, and give students immediate feedback on how an assignment affected their overall grade. I was not disappointed. Soon, students approached me to make sure their assignments were put into my "little gizmo" or check their averages on my "pocket thingy."

Interestingly, students who normally did not do homework became motivated when they saw the immediate effect missing an assignment had on their grade. Needless to say, grades started improving. This past semester, one student achieved a high enough grade on class assignments to exempt him from the final exam for the first time in his high school career. Thanks goes in part to Pocket Excel, for giving me the information I needed to effectively hound him about his grade.

My Pocket Excel grade sheet also helps me fill out report cards at the end of a semester. Not long ago I used to sit down with my paper grade book and a calculator, and average grades the hard way. (Many teachers still use this method.) Since my Pocket Excel spreadsheet averages grades automatically, all I do now is sit down at the desktop PC in my classroom (connected to the school's main computer), take out my H/PC, and hand enter the grades from my H/PC to the desktop PC. Soon I hope to be able to con-

About The Author

For six years John was the Social Studies Department Head and Technology Coordinator at the Beaufort-Jasper Career Education Center. Before that, he developed a training program for the Communications Department at Spartanburg Regional Medical Center and was a Bradley Fighting Vehicle Instructor in the U. S. Army. He has a Masters Degree in Education from Converse College and lives in Bluffton, South Carolina with my wife Priscilla and three-year-old son, Drew. Note: Funding for John's position at Beaufort-Jasper ended at the end of this past school year. He is currently looking for a teaching or training position in the Atlanta, GA area. You can contact John at: jwoodring@hotmail.com.



Screen 1: Pocket Excel lets me keep classroom grade sheets with me all the time, and give students immediate feedback on their grades and how an assignment affected it.

nect my H/PC to my classroom PC and transfer grade data over a network. However, the Pocket Excel spreadsheet still saves many hours of calculating and printing.

Staying in touch with parents

Pocket Contacts is my next most valuable application. With Contacts and my Pocket Excel grade sheets, I have my most important student information with me at all times. I keep parents' name, address and phone numbers and even email address for the few that have them. I categorize the parent contacts by the class the student is in and use Contact's filter function to get a class list quickly. When I call a parent, I make notes about our conversation in the Notes field, for further reference. I also keep entries for the people I meet at conferences, vendors, and useful Web sites.

Contacts and Pocket Excel have come in handy many times. When a fellow teacher needs the phone number of a parent, I've been able to give it to them before the main office could provide the same information. And I run into parents almost anywhere. When we start talking about their kids, and we always do, it's so easy to pull out my H/PC and give them the information they want.

Long distance lesson planning

I constantly search the World Wide Web for articles and lesson ideas to use in my classes (United States History, World Geography, and Travel and Tourism). Normally I do this from a desktop PC, but the ability to do this on my H/PC is handy, especially when I'm away from home. It saved my neck once when I was stuck in Atlanta longer than expected. I called home and made arrangements for someone to cover my classes (assuring a skeptical assistant principal there would be lesson plans ready the next morning). Then I headed to the local library and got to work.

At the library I looked over the current issues of U.S. News and World Report and American History to find articles related to what I was covering in class. After reading these articles, I pulled out my H/PC and created class worksheets using Pocket Word. The worksheets consist of a number of questions testing the students' comprehension of the articles content. When I was finished at the library, I headed back to my hotel and logged on to the Web.

When I was finished at the library, I headed back to my hotel and logged on to the Web. The first thing I did was retrieve the articles I had read at the library (U.S. News and World Report's: www.usnews.com; American History: www.thehistorynet.com). I also checked out the USA Today Web site (www.usatoday.com) and the CNN Newsroom Web site (www.cnn.com/cnn/programs/cnnnewsroom) to see if I could find further information on the topic of the lesson. I copied excerpts from the articles, pasted them into the Pocket Word documents, and created a couple more worksheets to go with the downloaded articles. Then I went into the H/PC's Inbox and composed an email to the teacher covering my class. I detailed the student assignments and other instructions, attached the documents, and sent the email message off. The assistant principal was amazed I could do this with something small enough to put into my pocket and never doubted me again.

Purchasing an H/PC is one of the best investments I ever made. My H/PC allows me more free time to concentrate on quality teaching and be with my family. I often pull out my H/PC while waiting at a restaurant or other places to work on ideas for class (and this article). Once, while a school board meeting droned on, I wrote an exam for a history class. My H/PC lets me keep vital student information with me all the time, resulting in better parent/teacher communication and better student achievement.

It's just not fair!

I knew my H/PC was a winner when I returned from the trip to Atlanta, I mentioned earlier. My students greeted me with long faces. "We thought we were going to have a free day when we found out you were not here. Then the substitute pulled out all of these articles and worksheets for us to do. That's just not fair Mr. Woodring."

Maybe I wasn't being "fair" to them, but I was being a better teacher, thanks to my H/PC. ■

Quick Tips & PC Companion Tricks

Thanks go to all the people who have written tips for, and shared their knowledge of the Handheld PC, Palm-size PC and Windows CE. This includes the folks at Microsoft, manufacturers of the H/PCs, and members of online forums supporting users of the PC Companions. Based in part on these sources, all tips are written by Rich Hall (unless otherwise specified).

Severe cold kills batteries, effects display

Don't leave your H/PC or Palm-size PC (or any PDA) out in the cold. Cold decreases the power output of batteries. If the battery voltage goes low enough, or if the batteries freeze, you can lose all the data you have stored in internal RAM memory. (You will not lose data stored on a Type II PC Flash card or CompactFlash card.) Depending on how long the batteries have been out in the cold, their power level may come back as they warm up. It's probably safer to replace or recharge them as soon as possible.

Cold effects the coin-cell backup battery as well. The backups are lithium batteries, which generally resist the influences of cold better than alkaline, NiCd, or NiMH batteries. But they can still freeze.

It might happen that your main batteries die but your backup holds on long enough to keep your PC Companion's memory alive. When you turn on your PC Companion you'll get a message indicating that your main batteries are running low. Replace or charge the main batteries immediately. If you also get a message telling you that the backup battery is low, replace it, but only after you have replaced or charged the main batteries. If you replace both main and backup batteries at the same time, you'll lose data stored in internal RAM.

Extend battery life

Most PC Companions operate for a reasonable amount of time before you have to replace or recharge their main batteries. However, there are some simple things you can do to make that length of time even more reasonable. Here are a few:

1. The number one most important thing is to connect that H/PC or Palm-size PC to an AC adapter whenever you can. Most PC Companions come with one AC adapter to power the unit and recharge battery packs. However, it's handy to have an extra AC adapter at home so you don't have to carry the adapter back and forth. Most H/PC and Palm-size PC manufacturers sell extra adapters for their PC Companions. Check their Web sites listed in the At A Glance section, page 47 this issue.

Note that some users have successfully used third-party adapters with their units. For example, I saw a message on CompuServe's Handheld PC forum that described how a Sharp Mobilon user purchased an adapter from Radio Shack (a popular electronics store in the U.S.) for about $20. The model # listed was 273-1663A and the adapter was described as a variable 3~6 volt, 700mA adapter with 6 or so different tips. The message suggested using the yellow tip, positive polarity. Purchase a non-standard AC adapter at your own risk. If you buy the wrong one and fry your PC Companion, you won't be covered under warranty.

2. Press the Off button when you're finished. Sure, there's an automatic off feature that turns off the H/PC or Palm-size PC after 1 to 3 minutes, but that's still 1 to 3 minutes of wasted power. When you need information, press On. When you're finished, press Off.

3. Use the Backlighting and Voice Record playback features sparingly. They increase power consumption 10-15 times.

4. Turn off LED alarms and notification features. Many Palm-size PCs and H/PCs have LEDs that notify you when a Calendar appointment comes due. As handy as this feature may seem, I hardly ever notice. Of course, a flashing LED also uses up battery power. Think about how much you use this feature and consider turning it off. Once you get into the Calendar application, the instructions are the same for H/PC or Palm-size PC.

To disable the flashing alarm for individual Calendar appointments, enter the appointment as you normally would, filling in description, date, time, and other information. Then tap the icon with a bell on it, at the bottom of the screen next to the check box labeled "Reminder." In the Reminder Defaults box that pops up, tap the Reminder Options button and uncheck the box labeled "Flashing light."

To disable flashing alarms for all Calendar appointments, open the Calendar application and select the Tools option from the menu bar. Then tap on the icon with a bell on it and in the Reminder Defaults box that pops up, tap the Reminder Options button and uncheck the box labeled "Flashing light."

Replace main batteries first

I just upgraded my 320LX for CE 2.0. (My 360LX is still a much better and faster unit). The unit didn't respond. After spending a while with Hewlett-Packard on the phone I found I had done the obvious — replaced the backup battery before the main alkaline batteries. For hard resets, users must be sure that

the backup battery is replaced AFTER the main batteries. The 320 is working fine!

Randy Sly
bprandy@mindspring.com

Keep your desktop clean

"Desktop" refers not only to the top of the desk you sit at, but to the opening screen of the H/PC. Keeping important files and books on the top of your office desk, at your fingertips, may be handy at times, but if too many items are stored there, the desktop becomes cluttered and you can't find the things you need.

The same is true for the desktop of your H/PC. Not only does icon clutter make it hard to find what you want, but the more icons displayed on the desktop, the slower the desktop screen loads – frustratingly slow at times. Eleven icons are automatically on the opening screen (Calendar, Contacts, Pocket Word, Recycle Bin, etc.).On top of that, most third-party software programs automatically install a program icon on the desktop. In addition, you can create desktop icons to access a project folder (hold down ALT, tap the desktop screen and select New Folder). The H/PCs desktop can fill up fast!

HOW TO KEEP YOUR DESKTOP CLEAN

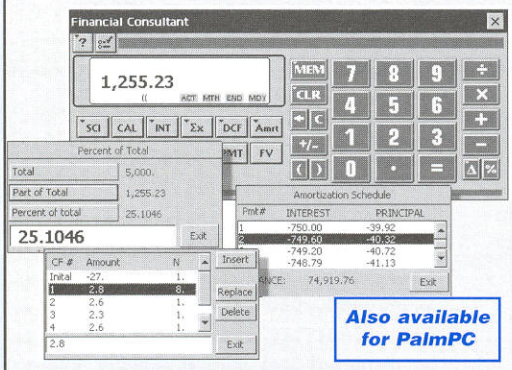
1. Clean up your desktop regularly. Every so often, especially when you notice the desktop filling up with icons, clean house. Delete folders and third-party software you no longer use.

2. Note that in most cases, deleting a desktop icon does not delete the program from your H/PC. And it's not possible to delete the built-in applications (Pocket Outlook, Word, Excel, etc.). Look at the icon on the desktop. If it has a small box with an arrow in it at the bottom left of the icon, deleting the icon will not delete the program. If that boxed arrow is not there, deleting the icon may delete the program. To completely delete a third-party software program from the H/PC, go to the Remove Programs application in the Control Panel.

3. Only keep desktop icons for the programs you use regularly. You can even delete icons for programs built into the H/PC. For example, I don't use Pocket PowerPoint, so I have deleted its icon from my H/PC's desktop. I can still access Pocket PowerPoint from the Start menu (Start, Programs, Office, PowerPoint). And if I ever start using PocketPowerPoint a lot, I can put its icon back on the desktop. (Open

got apps?

Perform business calculations with ease



Also available for PalmPC

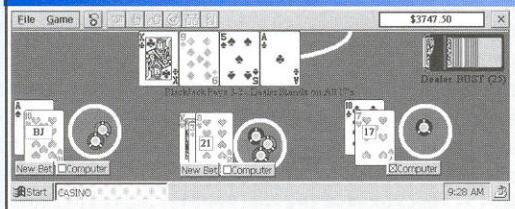
Financial Consultant 2.0

The Financial Consultant v2.0 is an advanced business calculator that combines many of the most popular features of HP and Ti calculators. In addition to regular RPN and Algebraic input, "Solver forms" provide a unique "fill in the blanks" environment for solving a range of business calculations without having to memorize obscure keystrokes.

Features

- Algebraic and RPN input options
- Statistics and Scientific functions
- Investment analysis using onscreen Cash Flow editor
- Date calculations
- Quick and easy Loan and Leasing calculations
- Forms based solvers provide unparalled ease of use.
- On-screen Amortization tables

Deal yourself in with our new card game collection



Exciting New Title !

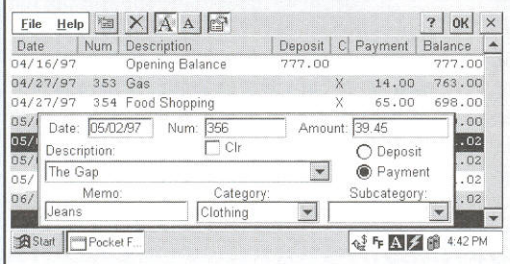
Casino Royal

A collection of casino games including Blackjack, Ride On, Casino Stud, 7-card Casino Stud and Video Poker. Works in color on a color HPC. Compatible with the original 1.0 Windows CE as well as 2.0. Each game can be played with a stylus or from the keyboard.

Features

- Five great games with Colour support
- Highly configurable game play
- Includes Spanish 21 and Double Exposure
- Completely playable from the keyboard
- Five types of Video Poker
- On-screen payout tables

Track your finances anywhere, anytime



Pocket Finance

Capture your financial transactions on the road. Pocket Finance lets you easily enter check, ATM, credit card activity and then upload it into MS Money or Quicken. Supports multiple accounts, category pop-ups that remember your entries, auto check numbering and more.

Features

- Rapid data entry
- Supports Multiple Accounts
- Desktop companion application to upload data.
- Pop-ups for description, category and subcategory
- Font control.
- Supports QIF.

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Windows CE Explorer; find the program you want to place on the desktop and tap on it once to select it; then from the File menu, select Send To, Desktop as Shortcut.)

4. Access the desktop's Display settings menu to add folders, arrange icons, and change display properties. You can go to Display settings menu by holding down ALT and tapping on the H/PC's desktop. From this menu you can arrange your icons, add folders, paste shortcuts to your desktop, or change the background of the desktop.

I only keep icons on my desktop for programs I use at least once a week. This includes Inbox, Calendar, Contacts, Tasks, Pocket Word, Pocket Excel, My Handheld PC, and the Recycle Bin. I access all others from the Start menu.

Add folder icons to H/PC desktop for projects

If you are working on a specific project, you can create a folder for that project to keep all documents related to the project. For example, you could save related Pocket Word and Pocket Excel documents to this folder, as well as email messages, HTML documents you downloaded from the Internet, and Pocket PowerPoint presentations related to the project. The idea is to keep everything related to the project in one place, for easy access.

The easiest thing to do is to create a desktop icon for the folder. Hold down the ALT key, tap on the desktop screen and select New Folder. Then give it a name related to the project. For example, I'm working on the sixth issue of *Handheld PC Magazine* and created a desktop folder named "HPC6." Windows CE automatically creates the folder and places an icon for the folder on the desktop. Whenever you create a document, save it to this folder. Whenever you need to access a document associated with the project, double tap on the folder's icon and then double tap on the desired document to open it.

Save online graphics in Pocket Internet Explorer

One of the wonderful things about the Internet is the graphics you can find there. I was up on a Web site recently that displayed images from cameras positioned in different parts of Honolulu. I just selected the camera view I wanted and I could check out the city (www.eng.hawaii.edu/~csp/Trafficam/index.html; the screen refresh rate is pretty slow).

If you spot an image you like, you can capture it as a graphics file with most Web browsers. If you're browsing in Pocket Internet Explorer on your H/PC, hold down the ALT key and click on the desired image. A little box pops up, asking you if you want to save the image as a picture or as wallpaper. Select "Save Picture as..." and give the graphic image a name. Pocket Internet Explorer saves the file in the Windows CE bitmap format. You can copy it to your desktop and have Windows CE Services convert it to the standard bitmap format.

Viewing Help files on your H/PC

Many Windows CE programs from third-party developers include help files in HTML format. This is the standard format for documents written for the World Wide Web. These and other HTML-formatted documents can be displayed and read in Pocket Internet Explorer. Open the built-in Web browser and select File, Open. A dialog box is displayed asking you to enter the address the document you wish to read. Tap on the button labeled "Browse..." and find the HTML document. Double tap on the document and it will open in Pocket Internet Explorer.

You can display any HTML-formatted document using the built-in application that displays help screens. You access this application every time you look for help in an application. (You can also get help from the Start menu.) To use this application to display a specific HTML document, do the following:

1. Tap on Start and select Run from the menu.

2. Type in the path to the application, the application name (PGEHELP.EXE), and path and file name of the HTML document you wish to display. For example, if I wanted to display an HTML file named NEWS.HTM that was found in the "My Documents" folder, I would type the following:

\Windows\peghelp.exe\MyDocuments\news.htm

Tap OK and the HTML document opens in the Help application.

Windows CE Service Pack 1 different from Windows CE Services 2.1

Microsoft has recently announced the release of two upgrades: Windows CE Service Pack 1 and Windows CE Services 2.1. Windows CE Service Pack 1 upgrades the Windows CE 2.0 operating system found on Handheld PCs. Windows CE Services 2.1 upgrades the synchronization software you install on your desktop PC.

These upgrades come in the form of executable files that you run on your desktop PC. They are available through the H/PC manufacturers, not directly from Microsoft. However, information about where you can download these patches and upgrades is available on Microsoft's Web site: www.microsoft.com/windowsce/hpc/support/patches.htm.

According to Microsoft, the following manufacturers offer download of the Windows CE Services 2.1 update: Hewlett-Packard, LG Electronics, NEC, Philips, and Sharp.

According to Microsoft, the following manufacturers offer a download of the Windows CE Service Pack 1: Casio, Hewlett-Packard, and Sharp.

A number of users have reported that even though different manufacturers are downloading the Service Pack, they are downloading the same program. That means that the Service Pack you download from Hewlett-Packard should work on any H/PC. The same is true for the Windows CE Services 2.1 update.

Note that most of the recently-released H/PCs and all of the Palm-size PCs come with these enhancements already incorporated. You won't have to upgrade them with these files.

Synchronizing with Windows 98

After upgrading to Windows 98 I found that I couldn't synchronize my H/PC with my desktop PC anymore. It turns out that Win98 revised the flow control on my COM2 port. Once I got this fixed, I connected just fine.

Here are the steps I followed:

1. From the Windows 98 Start menu I selected Settings, Control Panel, System, Device Manager, Ports, and COM2.

2. Once I got to the COM2 Properties screen, I selected the Port Settings tab and changed Flow Control to Xon/Xoff.

3. I backed up to the COM2 Properties screen and selected Device Manager, Modem, COM2 again.

4. From there I selected Connection and Advanced. I then checked the Use Flow Control checkbox and select Software (Xon/Xoff).

After this, I restarted my computer to reconfigure the port, and everything connected just fine.

Nigel Brown
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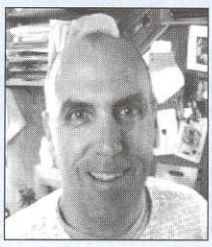
The top button on my pants finally popped off and shot all the way across the room — something needed to be done NOW!

Stop Dieting and Start Losing Weight...

with the help of your H/PC!

By Bil. Alvernaz

Note: Bil. is not a physician nor is he recommending a specific weight loss regiment for any particular individual. If you have questions about this, consult an experienced health professional.



About The Author

Bil. works as a consultant and writer for a wide variety of companies. He has written for USA Today, PC Magazine and other trade publications. Bil. is a host on Microsoft Network's Windows CE Forum, helping people learn the ins and outs of working with Windows CE Uunits. He also manages the Windows 95/98 Forum on MSN.

For quite some time it had been getting harder and harder to "cinch up" my bulging waist, but there was no more ignoring it! That was several years and many now-lost pounds ago. Since then my wife and I have worked out a system to eliminate pounds and keep them off.

The real issue is that, as adults, there's no one to tell us what to do. We can buy any food we want, snack any time we want, and go back for seconds and thirds whenever we want. We have to be the ones to say "NO!" and that's where the H/PC comes in handy – as our "Calorie Conscience!"

Get it off and keep it off – by the numbers

My wife and I talked to nutritionists and doctors and they all agreed: People need to permanently change their life style to get rid of extra weight and, more importantly, keep it off. This is accomplished through a combination of regular exercise and watching what you eat. We quickly learned that this combination works when we started dropping pounds! It needs to be noted that our system is designed for normal, healthy people who want to lose a little extra weight, and it doesn't tell you what kinds of food you should eat. If you have questions about what you should eat, or if you have serious weight or health problems, consult your doctor or a nutritionist.

Since our weight-loss system is based on simple math, it's well suited to a Pocket Excel spreadsheet on the H/PC. We use it in combination with an Excel spreadsheet on the desktop PC. It's very simple, and easy to maintain.

It all comes down to calories

Each day your body burns off a certain amount of calories. It does this rain or shine, whether you exercise or not, just to keep the metabolism going. So on any given day, if you don't want to gain weight, you MUST break even. That is, you've got to consume no more calories than you burn off.

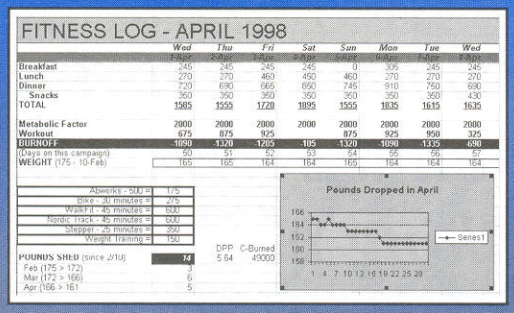
For example, because of my body size and life style, I burn off 2,000 calories per day. That means that I can have a 300 or 400 calorie breakfast (cereal with nonfat milk), a 500-calorie lunch (a cheese burger with NO fries), and a 1,000 calorie dinner (a piece of chicken, a slice of bread, potatoes, and a vegetable) and come in just under 2,000 calories for the day. I don't lose any weight and I don't gain any weight. If I choose to have a snack or two during the day, on top of breakfast, lunch and dinner, I'll go over the 2,000 mark and

my body will store the extra calories as FAT!

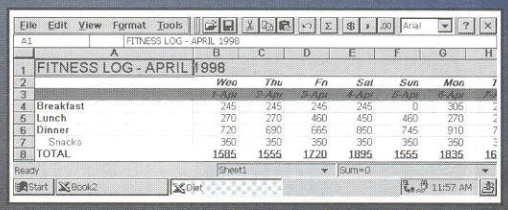
However, if I exercise during the day (cross-country skiing on my Nordic Track for 45 minutes), I burn an extra 600 calories. This gives me more calories to play around with in my diet, making room for a snack or two. Better yet, if I avoid the snack, I burn more calories than I consume. My body metabolizes FAT to provide the extra energy needed and I lose weight. One pound of fat equals 3,500 calories. Eat an extra 3,500 calories above your metabolic needs for a week and you gain a pound. Eat 3,500 calories less over a week and you lose one. This math brings us back to using the H/PC as your "calorie conscience."

Your H/PC "Calorie Conscience"

My wife and I designed our system to be easy to use and take with us wherever we go, and the fact that it's with us all the time is the most important feature. You know it's there and you know you're keeping track of your calories. This causes you to be more aware of what you are eating (and shouldn't be eating). It keeps you on your toes and it keeps you from adding on extra calories BEFORE you have to worry about burning them off!



Screen 1: The Fitness Log as it appears on a desktop PC in Microsoft Excel. The chart (lower right) shows weight dropped. The table (lower left) shows calories burned off by different types of exercise. Enter the calories per meal in the top of the worksheet and it automatically calculates the total for the day, and the projected burn off.



Screen 2: The Fitness Log worksheet as it appears on a color-screen H/PC. I download it from the desktop to my H/PC using Windows CE Services, which converts it to Pocket Excel format. The worksheet is essentially the same, but Pocket Excel does not have charting capability.

Screen 1 shows our Fitness Log Excel worksheet as it is displayed on my desktop PC. The column labeled 1-Apr shows a typical day using my fitness log. I had a light breakfast (granola bar at 150 calories and half a grapefruit at 45 calories, total 195). For lunch I had a cheeseburger (350 calories). For Dinner I had chicken, rice, and a salad (800 calories). During the day I had a bag of chips (250 calories). That put me at 1595 calories for the day. The spreadsheet then subtracts my average daily calorie intake (more on that later) and extra calories I may have burned from exercising (45 minutes on the Nordic Track = 600 calories) and shows the total Burnoff as –1005 – I lost weight.

If I had had a desert or a couple extra snacks, or hadn't exercised, my calorie intake would have exceeded the amount I expended and my Burnoff figure would have been a PLUS figure. That's something I don't want to see because I store those calories as fat!

The worksheet looks complicated, but it's mostly formatting. The math is pretty simple. Formulas in the row labeled "TOTAL" add up the calories for the day (e.g., =SUM(B4:B7) in Cell B8). Formulas in the row labeled "BURNOFF" subtract the calories burned off that day from the calories consumed (e.g., =+B8-B10-B11 in Cell B12). The row labeled "Metabolic Factor" simply lists the average number of calories I burn off each day. The "Workout" row lists the extra calories I burn off when I do a particular exercise (listed in the lower-left table). To enter extra calories burned off, I select the "Workout" cell for that day, enter an = sign, and tap on the exercises calorie count in the table. It's easy. I finish off by weighing myself each day and enter that into the WEIGHT row.

I use the chart feature in the full desktop version of Excel to display a chart of the weight lost in a given month.

Keep it Handy on the H/PC

I keep the Fitness Log worksheet in Pocket Excel on my H/PC and enter calorie information there most of the time. It's always ready to remind me how many calories I've consumed so far and how many I have left. It's easier to say no to a piece of cheesecake when I see that the BURNOFF number will go positive in a big way. It's essentially the same worksheet, but the H/PC can't display the chart (see Screen 2). I eventually move it all to my desktop PC so I can display the charts and free up space on my H/PC.

Windows® CE
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✓ Messaging Applications
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MS-Mail/Exchange connection.
Exchange forms & Lotus Notes
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15732 CRABBS BRANCH WAY, SUITE 200
ROCKVILLE, MD 20855
PHONE (301) 330-2995
FAX (301) 330-8609
E-MAIL: markf@mburst.com

Common Sense About Losing Weight

1. What you don't eat, you won't wear (i.e., store as fat)! That means if you eliminate between meal snacks and extra portions, you won't have to worry about burning off those calories.

2. If it isn't in the house, then you can't eat it! Eating smart also means shopping smart. Don't go shopping on an empty stomach and DON'T bring home all of those things you love to snack on.

3. If the question comes up, the answer is "NO!" Even if you don't keep a fitness log, you can still do something significant about your weight by eliminating between meal snacks. If you EVER find yourself asking the question, "Do I want that snack." The answer is NO.

4. Exercise is the answer! When you're getting your metabolic analysis done, ask for a list of activities and the calories they burn off. The truth is that you can't expect to lose much weight unless you exercise. Exercising speeds up your metabolic rate for several hours afterwards. That means you not only burn off calories during the exercise, you keep burning them off at a higher rate for some time after. When you combine eating "smart" with exercising, you have a winning combination.

5. Know what it's costing you! It's not hard to find out the calorie counts for the foods you eat. Most of us are creatures of habit and don't eat that much variety. Figure out the cost in calories of the food you eat and write it down in your H/PC. You'll become calorie savvy in a relatively short period of time, and better able to "eat smart."

Look at any can, box or bottle of food and you'll find a food nutrition label. On that you'll find the total calories in the container or the number of calories per serving. It's fairly easy to figure out how many calories you are consuming. There are food items without labels (vegetables, fruits, fish, meat, etc.). For these there are paperback books that list foods and calories per typical serving size. Some of these books even list calories of items sold by specific fast food chains (McDonalds, Wendy's, KFC, etc.). You can get calories counts from any company by calling 1-800-555-1212 and asking for that company's 800 number. Once you get the company, ask for customer service. They will usually give you specific calorie information over the phone or you can have them send you the calorie counts for all of their menu items. ALL fast food companies and most restaurants are glad to provide this information. You just have to make the effort to ask for it.

What you need to do

The real work! This worksheet doesn't tell you what you should eat, it just helps you keep track of how much you eat and the price you are paying for it, in FAT. The spreadsheet doesn't care what you eat just as long as the calories balance out in the end. You have to give some thought about eating a balanced diet.

You don't have to be nearsighted about the spreadsheet. If you go over one meal – fine! Go a little under on the others. For example, when I know I'm going out to dinner with friends, I know I'll be eating more than normal. I make it point to do more exercise that day and go light on the other meals, as well as avoiding KILLER between meal snacks. You can even spread a big meal out over the next two or three days. Think a week at a time, instead of always focusing on the day. You can stay trim and still have fun.

One of the first things you'll have to do is find a place to get your body fat and metabolic analysis done. It costs about $35 and lets you know the percentage of fat on your body and what your metabolic rate is (i.e., how many calories you burn off each day without doing any exercise). Health clubs and medical clinics are the best places to get this done. (The health clubs may try to sell you a membership.) It doesn't hurt or take much time, just get it done.

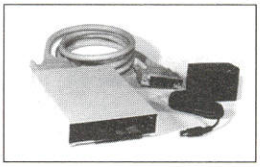
No quick fixes

There are no magic answers or "quick fixes" when it comes to your weight. Since weight gets put on over time, you can't expect it to disappear over night. In fact, the safe and smart way to permanently lose weight is to drop it gradually over time. Aim at losing a pound every five to seven days. If pounds come off faster, great! But don't be in a rush. Remember that you are not on a diet, you're changing your way of life. I need the H/PC to be my conscience, constantly showing me where I stand in terms of calories consumed and calories burned. My goal is to end each day either with calories burned off or to break even. I have found that if I get away from keeping my fitness log, I immediately start adding pounds. Start it and keep it up.

A copy of the Fitness Log Excel spreadsheet will be available on the Handheld PC Magazine Power CD, at www.thaddeus.com, or directly from Bil. Email him at bil@elite.net. It includes charts and tables along with the calorie counts for dozens of fast food items.

Card-Link

for SRAM and ATA flash memory cards



Why struggle with cables? Transfer files the quick and easy way by adding a memory card slot to your desktop PC.

- Works like a floppy disk drive
- Connects to a desktop parallel port

$179.95 Model CL680 for Type I and Type II cards
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We carry adapters for compact flash cards.

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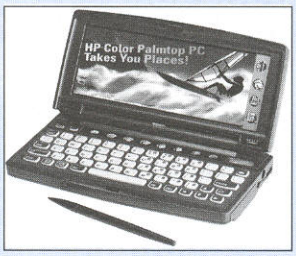
NEWS Bytes

Hewlett-Packard introduces 660LX palmtop PC



HP recently introduced the 660LX, a color-screen H/PC identical to its popular 620LX except that it ships with 32 MB or internal RAM memory and a 56- kbps fax/modem card. The 660LX, with its fast modem card and extra internal memory, is designed to give mobile professionals faster access to their email and Internet, and more space to store messages, documents, applications, images.

HP now offers two color-screen palmtop PCs. The 620LX with 16 MB of internal RAM memory has been reduced to $799 (U.S.). For more information, see the Hewlett-Packard listing in the "At A Glance" section, page 47.

Novatel Wireless ships CONTACT: H/PC with built-in wireless modem

Novatel Wireless announced the shipping of CONTACT, its Windows CE 2.0 Handheld PC with a built-in, fully integrated wireless modem. The user must have a Wireless IP service plan and an Internet Service Provider to utilize CONTACT's wireless capabilities. Carriers offering Wireless IP service for CONTACT include: Ameritech, AT&T Wireless, Bell Atlantic Mobile, GoAmerica Communications, GTE Wireless, and Vanguard. For more information, please see the Novatel Wireless listing in the "At A Glance" section, page 47 of this issue.

Novatel Wireless also announced the availability of Result Information Group's RANDI CE, a network administration tool that allows wireless access of corporate networks using CONTACT's integrated wireless modem. According to the announcement, using RANDI CE with CONTACT will simplify the management and administration of NT systems, saving companies time and money by providing remote 24-hour network support and allowing a rapid response to all network complications. Result Information Group's web site: www.results-info.com.

Sharp Mobilon HC-4600

Sharp has released a new version of its Windows CE 2.0 color-screen H/PC. The original HC-4500 Mobilon could not be expanded beyond its 16 MB of internal RAM. The 4600 comes with 16 MB of RAM, and is expandable to 32 MB. In addition to the 4500's features, which include a digital camera option, voice record feature, and seven one-touch application keys, the new HC-4600 has a number of new hardware and software features, including:

- PC File Viewer — which lets users view desktop PC files on the Mobilon, enabling users to open e-mail attachments including a variety of Microsoft, Corel and Lotus file formats.
- Citrix ICA Client — the thin-client which enables users to dial into a corporate network and use the Mobilon as a terminal to run off-the-shelf or corporate desktop applications residing on a Citrix WinFrame Server. (Citrix ICA Client will work with Microsoft Terminal Server using Citrix MetaFrame add on.)
- bFax Pro — fax software which now has send and receive capability. The new architecture allows users to fax from any program that supports printing.
- PhotoLink — seamlessly integrates still images with contact information. Images can be imported from the optional digital camera or clipboard.
- Image Editor — optimizes the images for best viewing with auto image correction. The Image Editor can also be used to produce MPEG videos using the digital camera.

NEWS Bytes

Sega chooses Windows CE for Dreamcast game system

Microsoft has been collaborating with Sega Enterprises on the development of Dreamcase, Sega's new home video game system to be available towards the end of this year or the beginning of 1999. Microsoft will provide an optimized version of the Microsoft Windows CE with integrated DirectX services as the operating system for use with Dreamcast.

Dreamcast will include advanced technology in 3-D graphics, sound and input devices, as well as an on-board modem to support Internet access and network gaming. According to Microsoft, the use of the Windows CE operating system will make the development of games for the new system easier and faster, making possible cross-platform title compatibility with Windows-based PCs.

A Windows CE Software Development Kit (SDK) for the Dreamcast system will be built around the Microsoft Visual Studio development system version 5.0 and will include Visual C++ development system-based tools. Video game developers will be able to develop Dreamcast games on Windows-based PCs. The initial SDKs are expected to be available to Sega-licensed developers by the end of May 1998.

For more information, contact Sega at www.sega.com or Microsoft at www.microsoft. com/windowsce/dreamcast/factsheet.htm.

• MPEG Player — play short video clips or movies you make using Image Editor or download video from the Internet.

• Optional 16MB system memory upgrade to boost the unit to 32MB of RAM which enhances storage capacity and multi-tasking capabilities.

Sharp will make a software upgrade package, including this new software, available to registered users of the HC-4500 for a nominal fee. Details will be forthcoming on Sharp's web-site, www.sharp usa.com.

The Sharp Mobilon HC-4600 will be priced around $999. See "At A Glance" section, page 47, for more details about Sharp's H/PCs.

Desktop To Go for WindowsCE discontinued

DataViz discontinued the development and marketing their Windows CE synchronization program. According to their Web page, the decision was made "...due to an increased need for our technology and resources in other areas..." The Web page further states that technical support via phone will be available through the rest of this year and that that will maintain their Windows CE technical support Web page "well into 1999." Web site: www.dataviz.com/Tech/DTG/DTGCE/TS_DTGCE_Home.html.

MultiMedia Card Association formed

Fourteen leading industry companies, including the world's largest telecommunications companies, have established the MultiMediaCard (MMC) Association, an international organization that will promote the adoption of the ultra-small memory card as a new storage standard for telecommunications and handheld computer products.

The 14 member companies are Altec Computer Systems, Ericsson, Hitachi, ITT Cannon, LinkUp Systems, Motorola, Multisonic Interactive, Pontis GmbH, NEC, Nokia, QUALCOMM, SanDisk, SCM Microsystems and Siemens AG. In November, 1997, SanDisk and SiemensAG introduced the MMC, the world's smallest solid state storage device (approximately the size of a postage stamp). It provides portable data and audio storage to the many small-size, advanced mobile phones, pagers, handheld computers and audio recorders currently being developed.

For more information visit the MultiMedia Card Association's Web site is at www.mmca.org or SanDisk's Web site at www.sandisk.com.

SanDisk introduces higher-capacity PC memory cards, cuts prices

SanDisk has significantly increased the storage capacity of its removable flash memory cards and embedded flash devices with the introduction of a product line based on its new 80 megabit (Mbit) double density technology. The introduction gives SanDisk the industry's highest capacity products in the Type II and CompactFlash Card categories.

SanDisk's double density technology increases the capacity of flash storage products by storing two bits of information in each flash cell instead of the traditional one bit of data. SanDisk's flash memory prices are being reduced by approximately 20 percent per megabyte with double density flash. SanDisk will go into full production in the third quarter of this year. SanDisk's highest-capacity Type II PC card will increase from 220 MB to 280 MB. Its highest-capacity CompactFlash card rises from 48MB to 60MB. End user prices have not been set yet.

For more information, contact SanDisk at www.sandisk.com.

NEWS Bytes

A note on "discontinued" and "recalled" products

[This tip is based on a notice David Mills, from Sharp Electronics, sent me. It was in response to some misunderstandings about the availability of their Mobilon H/PC, but it applies to any product. – Rich Hall]

You're at a computer store looking for a particular H/PC, Palm-size PC, or any computer product. You can't find it so you ask the sales person to look it up on the store's inventory system. He or she comes back and tells you, "Sorry, but the item has been "discontinued" (or "recalled"). You're out of luck, those S.O.B.s dumped you, right? Not necessarily!

To a store clerk, the word "discontinued" means: a) they can not get the product from the manufacturer for any number of reasons, or b) they have decided to stop carrying the product in question. It does not mean that the manufacturer has decided to abandon you without notice.

The word "recalled" conjures up images of automobiles being called back to correct safety-related problems. It's possible for a computer product to be "recalled" for defects. But in the case of Sharp, they did so well selling their Mobilon to corporations, they had to "recall" some of the ones they sent to computer resellers to fulfill their corporate accounts.

Although Sharp has recently introduced its HC4600, it stills sells and supports the HC-4100 and HC-4500. They have not "discontinued" them.

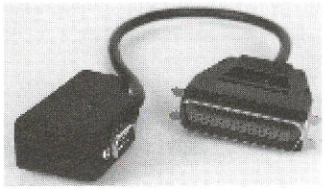
The general point here is to check with the manufacturer about "discontinued" or "recalled" items. If you have problems, email them to me at rich@thaddeus.com and I'll check for you.

Phone makers pick Psion's operating system

Digital cell-phone makers Nokia, Ericsson and Motorola chose Psion's EPOC as the operating system for their smart cell phones and digital communicators. Psion will release control of its EPOC application programming interface (API) to Symbian, a new company jointly owned by Psion, Nokia, Ericsson and Motorola.

Microsoft continues to update Windows CE to make it better suited to the development of embedded systems applications, including the type used by smart phones and digital communicators. This deal is seen by many as a setback for Microsoft's plans to have Windows CE be the operating system of choice for mobile communications devices.

DIRECT → MOBILE → PRINTING



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GA935CE - $49.95

SPECIAL PRICE 'BUNDLE' WITH bPRINT - $69.95

GA935 (LINK-A-PRINTER II) - 9600 BAUD - $49.95
GA945CE (LINE POWERED) - 9600 BAUD - $49.95
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Handheld PC Magazine's TOP 10

Handheld PC Users Recommend Their Favorites!

What to buy? Software and accessories for Windows CE PC Companions.

What do the day-in, day-out users of handheld PCs like and recommend? This article is the second in a series where handheld PC and Palm-size PC users tell us what they think is truly useful. Below is the Top 10 list from regular contributor Michael J Posner. It's interesting that his list is almost entirely different from the Top Ten recommendations made by Todd Ogasawara in the last issue. What are your top Windows CE products? Email me at rich@thaddeus.com and let me know.

10 Essential Add-ons to Improve the H/PC Experience

By Michael J Posner

While a typical H/PC is useful out of the box, there are several must-have add-ons that really help to customize the H/PC and improve the user's experience. The following are ten of my favorites.

1 Lithium AA Batteries

$5-7

They cost twice as much as other AAs, but I find that they deliver almost three times the length of operation. The convenience of not having to continually replace batteries makes them a must buy. Some complain that they die suddenly, but I have yet to be stranded. On my Casio A-20, I get seven to nine hours of use on standard alkaline batteries (with lots of backlight usage). With Energizer brand Lithium AA batteries, I can go fifteen hours.

Available at camera shops and discount stores. A pair costs $5.27 at WalMart.

2 Infrared Adapter

$40 -$100+

I have added an Adaptec Airport 2500 infrared adapter to my desktop PC, making it possible to synchronize and send files back and forth between my H/PC and desktop PC via wireless infrared transfer. The Adaptec attaches to the PC via a serial cable, making it easy to disconnect and share with other laptops or PDAs. Adaptec has discontinued the Airport 2500 (used ones should go for about $50), but several other manufacturers sell infrared adapters. Prices will range from $40 to over $100. Make sure the adapter is IrDA compatible and make sure the vendor has a money-back guarantee since compatibility is always an issue. The following three vendors offer IR adapters for PCs and printers:

ACTiSYS Corp.
Phone: 888-860-9880
Web: www.actisys.com

Puma Technologies
Phone: 800-248-2795
Web: www.pumatech.com/adap_cables.html

Extended Systems
Phone: 208-322-7575
Web: www.extendsys.com

3 XTCE DOS Emulator

Free

DOS isn't dead! If you been drawn to the H/PC, but are loathe to give up all your favorite DOS software, you can have your cake and eat it too. Ian Dean's amazing programming skills let you go "Back to the Future" and operate an IBM XT class machine in your H/PC. XTCE is a full 8086 emulator for users who need to run older DOS programs on the go. While not a casual install, a moderately experienced user should have no problems setting up the program.

Available for free at www.pyram-id.demon.co.uk/XTCE.html. The author, Ian Dean, has even promised a version for the new Palm-size PC

4 Visual CE™

$129

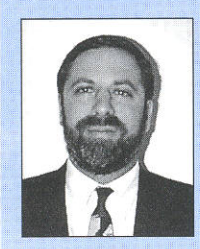
Need to create custom forms and databases but lack programming skills? Visual CE lets you draw your form and develop custom creations that are easy to make and use. I use my H/PC to keep track of my Camera Collection. Before Visual CE I used a simple text list. With Visual CE, I created a collection form that lets me keep lots of well organized information about my collection, and view the info in single chunks or indexed lists. When I am out looking for new cameras, I can use the form I created to see if I need a certain camera or part just by searching my database.

More information about Visual CE is available in the review on page 43 of this issue.

5 Carrying Bag

Price Varies

A carrying case protects your H/PC and many come with extra pockets for pencils, pens, memory cards and more. A number have been listed in *Handheld PC Magazine.*



ABOUT THE AUTHOR

Michael J Posner is a Board Certified Real Estate partner with the law firm of Cooney, Ward, Lesher & Damon, P.A. in sunny West Palm Beach, Florida. Specializing in Real Property, Corporate and Intellectual Law, Michael spends his spare time writing and playing with computers, and working on his novels. He is most proud of his four year old son Christopher and his wife, Florida Assistant Attorney General Sylvie Perez Posner.

Windows® CE Handheld PC Bar Code Scanners

Get *thousands* of scans with our *battery-friendly* line of laser, CCD or contact wand bar code scanners. Input bar codes directly into any application on your **WinCE H/PC** or **Win95 mobile computer** with Momentum's PCMCIA Type II ***ScanCard™***. ***Scan Card*** includes KB wedge drivers and ***Item Trak*** software. Now, get dedicated data collector benefits at a fraction of the cost!

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A graphical FTP client for Windows CE, Scotty FTP lets users upload or download files with a single tap. Scotty FTP can connect to the Internet or local Intranet using modem or direct serial connection. It also displays FTP commands being executed and the server responses.

F E A T U R E S

- Connects to any FTP server around the world through an intuitive native Windows CE graphical user interface
- Complies with the standard Internet FTP specification RFC 959
- Maintains Server Profiles along with login information
- Quick Connect feature for immediate access to an FTP server
- True Windows CE 32-bit, multi threaded application

$29.95

Works with Windows CE 1.0 and 2.0

Available at: http://www.ruksun.com or E-mail: info@ruksun.com

Ruksun Software Technologies
http://www.ruksun.com

SCOTTY FTP

Don't want to waste $50 or more on a carrying bag? Make your own or modify an existing one. I purchased a $12 day planner at Office Depot, removed the insert, added some padding (old, soft mouse pads work great!) and voila, I had a custom-fitted zippered carrying case for my H/PC.

6
FrotzCE

Free

If you have been around computers a long time you might remember that the best games were text-only Infocom Adventures. Well, the good times are back, with a freeware Infocom emulator that lets you play most of the Infocom games on your H/PC. These games are now sold in packaged bundles and are still fun after all these years.

Freeware, available at: www.pyram-id.demon.co.uk/FrotzCE.html. This site also has links to other sites with downloadable adventure games.

7
Pocket On-Schedule™ 2.2

$89.95

If you need more contact management capabilities than those provided by Pocket Outlook, try Pocket On-Schedule. Install this program on your H/PC and it accesses the data file used by Pocket Outlook's Contacts application. The newest version of Pocket On-Schedule gives you a more powerful contact management system, including: multiple calendars and to-do lists, multiple Calendar views (Daily, Weekly, Monthly, 6-8 Months views), To-Do/Journal views, full Contact History and Linking capabilities, and more. The fact that you can create multiple contact databases alone is worth the purchase price.

Odyssey Computing
Phone: 800-965-7224 or 619-675-3660
E-mail: info@odysseyinc.com
Free demo at: www.odysseyinc.com/

8
Calendar Search

Free

The lack of a universal data locator in the Calendar program was a weakness in many of the original H/PCs. However, thanks to a simple freeware program from prolific Windows CE software programmer Panutat "Jimmy" Tejasen, this mistake is easily rectified. Use the Calendar Search utility to quickly find a word, phrase, or any group of characters anywhere in your Calendar.

Downloaded free from: www.jimmy.com/Freeware/freeware.html#CalSearch

9
Microsoft PowerToys v. 2.0

Free

Another must-have program is this collection of utilities and programs from Microsoft. PowerToys now works with Windows CE 2.0 H/PCs and includes Pocket Paint, Cascading Menus, Mute control and Business Cards — a utility that "squirts" contact information from one H/PC to another via the IrDA port. The new version of PowerToys does not have the Remote Control utility that was available in the 1.0 version.

Download free
Web: www.microsoft.com/windowsce/hpc/software/power.htm

10
Microsoft Entertainment Pack for Windows® CE

$34.95

Microsoft has bundled ten games on one CD for Windows CE H/PC users. Chess is reasonably well implemented and Missile Command is tons of fun. Several of the games support two-player participation via the IrDA port for data transfer. Other games included are Blackjack, Codebreaker, Freecell, Hearts, Minesweeper, Reversi, Sink the Ships (battleship), and Taipei. You may not like all of the games, but some will keep you (and a nagging child) busy for hours. For more information, check out the Microsoft Web site at: www.microsoft.com/products/games.htm.

Available from retail software vendors, including:
Mobile Planet
Phone: 800-675-2638 or 818-888-7267
Fax: 818-888-3484
Email: sales@mplanet.com
Web: www.mobileplanet.com

There are many other excellent programs and utilities available for your H/PC. This list is only a starting point for users. ■

PC COMPANION
NEW PRODUCTS

The PC Companion Products *listed here include hardware, software, services, and resources. Prices listed are suggested retail price. Unless otherwise indicated, software products are delivered on floppy disk. Listings do not represent an endorsement by the editors. To announce in our next issue, please send an email message to editor@thaddeus.com. For live links to the web sites mentioned in this section, visit our web site at* www.thaddeus.com, *or purchase our PowerCD.*

HARDWARE

Accessories

PalmTree Leather Carrying Cases

PalmTree Products offers a selection of leather carrying cases for H/PCs, including:

- The Executive and Mini PlayThru ($49.95) H/PC attaches to case via Velcro base for safety and security; includes pockets for PC or credit cards, a pen holder, and a detachable wrist strap.
- Glove 2000/2100 ($59.95) Gives you access to PC card slots, serial port, speaker, etc., while H/PC remains in the case. Includes optional, detachable shoulder strap.
- Custom Leather ($29.95) Lets you store PC or credit cards inside and out. Zippered closing provides security and protection; includes a handy belt clip for easy carrying.
- Pouch ($19.95) Provides protection and easy access. The leather flap closes securely with Velcro and the case slips easily into a coat or pocket.

Use with H/PC
Contact: PalmTree Products, Inc.
Phone: 781-871-7050
Web: www.palmcase.com

Palm-size PC Case

Full grain leather case with a pad for quick notes you may still want to take before entering the information into your Palm-size PC. Includes slot for business or credit cards; free additional pads of paper; secured by velcro; easy access for stylus and IrDA port.

Price: $24.95
Use with Palm-size PC
Contact: Baker Products
Phone: 800-645-8156 or 305-447-2070
Fax: 212-554-4248
Email: qqsr05a@prodigy.com

Data Storage

Clik! Mobile Drive

The Clik! Mobile Drive provides mobile file storage for H/PC and Palm-size PC users. The drive weighs less than six ounces, is just over four and one half inches in length and is powered by a rechargeable battery. It stores its data on "Clik! Disks," small, 40 MB disks about the size of a silver dollar. A single $10 disk is designed to hold up to 25 ten-page Microsoft PowerPoint presentations or 400 ten-page Microsoft Word documents.

In addition to the Clik! Mobile Drive and Clik! Disks, the following Clik! devices will be developed:

- Clik! Flash Memory Reader – connects to the Clik! Mobile Drive and lets you transfer files from CompactFlash and SmartMedia memory cards to a Clik! Disk.
- Clik! PC Card Adapter – lets you connect a Clik! Mobile Drive to a handheld computer via the H/PC's Type II PC card slot.
- Clik! Rechargeable Battery – provides extra battery power for the Clik! Drive.
- Clik! Desktop Docking Station – lets you connect a Clik! Mobile Drive back to a desktop PC computer with a parallel or SCSI port. Once connected, the Clik! Mobile Drive acts like a logical disk drive making transferring data to a computer simple and fast.

Clik! Mobile Drives are expected to be available in the U.S., during the second half of 1998, for as low as $200. A lightweight, low-cost version of the drive, designed to be built directly into portable digital products such as digital cameras, handheld personal computers and smart cellular phones, is expected to be available to OEM manufacturers in the same timeframe.

Contact: Iomega
Phone: 800-MY-STUFF (800-697-8833)
Web: www.iomega.com.

PC Cards

SanDisk Double-Density Storage Cards

SanDisk is releasing new higher-capacity Type II, Type III, and CompactFlash Cards using their new "double density" technology, which stores two bits of information in each flash cell. Maximum file storage capability of this new technology is as follows:

- Type II PC Card — 280 MB
- Type III PC Card — 500 MB (not useable in PC Companions)
- CompactFlash Card — 60 MB

For more information about SanDisk Cards, and contact information, see page 18.

TDK PC Card Fax/Modems and LAN Adapter

CyberExpress 5620CE PC Card fax/modem

A fast, V.90 56K PC Card fax/modem for your handheld PC. Saves the H/PC's battery life with special idle power mode.

Price: $129

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Cellular Companion 5630CE PC Card fax/modem

A V.90 56K PC Card fax/modem that lets you connect your H/PC to analog/ digital PCS/GSM cellular phones to get your email, connect to the Internet or fax from home, office or on the road. The Cellular Companion 5630CE includes an automatic low power sleep mode, digital line protection, and caller ID.

Price: $169

MobileNetworker CE PC Card LAN adapter

A low-power, Windows CE-compatible LAN adapter, letting you connect your H/PC to a Local Area Network for communications and file transfer up to 100 times faster than a serial connection. The MobileNetworker CE PC Card includes drivers for all major operating systems including Windows CE 2.0 (or higher), Windows 95/98/NT and Mac OS.

Price $99

Above three PC Cards available at major computer reseller stores (see website for locations)

Contact: TDK
Phone: 800-999-4TDK
Web: www.tdksystems.com

SOFTWARE

Communications

Data Anywhere

(In Beta currently — v.1.0 out July 98)

Data Anywhere provides an easy way to use an existing desktop or network database on a H/PC. It consists of two parts, Data Anywhere Client and Data Anywhere Server.

Data Anywhere Client software provides a mobile user with the facility to read and modify the database records downloaded into the H/PC via Data Anywhere Server; it also allows the creation of new records within the framework of the selected database. Database records are automatically formatted to fit the H/PC display, allowing different manufacturer's H/PC systems, and varying database record structures to be used seamlessly.

Price: To be announced
Use with H/PCs (Palm sized version out soon)
Contact: Smart Ideas Software
Phone: +44 1242 244700; Fax: +44 1242 244700
Email: contact@smartidz.com
Web: www.smartidz.com/

DynaComm Connectivity Series (DCS-H/PC)

Offers remote H/PC users access to a variety of host systems including IBM, Tandem, Digital, and UNIX. Supported emulations include ADDS VP/60, ANSI-BBS (with SCO ANSI ext.), AT&T 4425, AT&T 605/705, Digital VT-series, TN3270, TN5250, Tandem 6530, Televideo 925 and Wyse 50/60.

Price: $99.00
Use with H/PCs
Contact: FutureSoft, Inc.
Phone: 800-989-8908 or 281-496-9400
Fax: 281-496-1090
Email: info@futuresoft.com
Web: www.futuresoft.com.

Health+Cast's Galileo for Windows CE

An object-driven graphical client with support for access to data from a variety of legacy applications, including mainframes, AS/400, VAX, and UNIX systems.

Contact: HealthCast
Email: bmartin@gohealthcast.com
Web: www.gohealthcast.com/

ICQ for Windows CE

An Internet tool used for real-time chat and alerts when friends or colleagues log on.

Freeware demo
Web: www.icq.com/download/preview/wince.html

TN3270 for Windows CE

Terminal emulator for Windows CE H/PCs. Lets users connect to mainframe computers including VM/CMS, MVS, CICS, and other systems that support the 3278 terminal via Telnet.

Price: $79.95
Use with H/PCs 1.0 and 2.0
Contact: Murkworks, Inc
Phone: 315-268-1000; Fax: 315-268-9812
Email: sales@murkworks.com
Web: www.murkworks.com/products/tn3270ce

Calculators

PiCalc

Small program that lets you figure pi up to 20,000 decimal places.

Freeware
Download from Windows CE Conservatory,
www.cecon.home.ml.org
Contact: Fong Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

Pocket GraphCalc

A graphic calculator that plots equations and performs other types of advanced calculations.

Price: $40
Use with H/PCs
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

Pocket Solver

Palm-size PC version of calculator program that lets you type in an equation and enter values for all but one of the variables. Unlike a spreadsheet, any unknown variable can be found without having to rearrange the equation.

Price: $32
Use with Palm-size PC (also available for H/PC)
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

TValue v.1.0

Calculator that lets you solve financial problems involving irregular payments, balloons, and changing interest rates.

Price: $59.00
Use with H/PCs
Sales contact: MobileSoft
Phone: 800-773-1523 or 330-673-7110
Developer: TimeValue Software
Phone: 714 727-1800; Fax: 714 727-3268
Email: info@timevalue.com
Web: www.mobilesoft.com

Contact Managers

Pocket Maximizer 5.0

Upgrade of a contact manager for Handheld PCs. Now works with Windows CE 2.0 H/PCs. An Explorer-style shows at a glance the connections between companies, people, and the tasks, appointments, and notes associated with them. Pocket Maximizer links to Pocket Word, sends E-mail with one click, and synchronizes with desktop PCs. In addition to name, address, phone, personal, and Internet information about contacts, Pocket Maximizer users have access to ten user-defined fields. Pocket Maximizer 5.0 shares many features

with Maximizer, the Windows 95/98/NT desktop contact manager.

In addition to support for the CE 2.0 platform, this new version includes performance enhancements, including faster synchronization and backups.

Price: $69
Free to existing users of Pocket Maximizer
Use with H/PCs
Contact: Multiactive Software Inc. (formerly Maximizer Technologies, Inc.)
Phone: 800-804-6299; Fax: 604-601-8188
Email: sales@maximizer.com
Web: www.maximizer.com

Data Collection/Organization

Computer-Integrated Time Study (CITS)

Computer-Aided Work Sampling (CAWS)

CAWS Mod 1 – Work Sampling Study Designer

Work measurement systems that assist in automating the time study and work sampling process. Enables an H/PC to collect work study data and download it to a desktop PC for sophisticated analysis and reporting. Programs for both the H/PC and desktop PC are included in the program package.

Price: $195 to $3850 with lease option
Use with H/PC and desktop PC (Win95 or WinNT)
Contact: Clemson Consulting Clearinghouse Corporation
Phone: 864-624-1234
Fax: 864-646-2450
Email: lindenmyer@aol.com or carlray@c-four.com
Web: www.c-four.com

Pocket Database

Lets you store information on your PC Companion in a database. View databases in List or Card format. Advanced features include, in-place editing, saved column widths and multi-line editing in List or Card mode. Includes the following sample databases you can import: Common Abbreviations, International Dialing Codes, Aircraft Marks, ASCII codes, Birth Stones and Signs, Book Sizes, International Car Indexes, Chemicals, Counties, Equivalents, Foods, French Words, Morse Code, Paper Sizes and US State Capitals.

Price: $32
Use with H/PC or Palm-size PC
Contact: Surerange Analysis Ltd
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

TimeReporter 2

Popular time and billing software for the PC that now comes with a PC Companion program. TimeReporter.is multi-user and multi-database capable.

Trial Beta version free of charge
Use with H/PCs
Contact: Iambic Software
Phone: 800-730-5370 or 408-367-1604
Fax: 408-367-1606
Email: info@iambic.com
Web: www.iambic.com/timereporter/

Games/Entertainment

Maze Master CE

Navigate the maze in the shortest amount of time possible while trying not to touch the walls of the maze. The size and complexity of the maze is adjustable to make sure that everyone is challenged without being overwhelmed.

Shareware (download at Web site)
Use with H/PCs
Contact: Clevrware
Email: sales@clevrware.com
Web: www.clevrware.com/maze/

MIDPlay

Play MIDI music files from an H/PC to a MIDI device attached to the H/PC via the serial port.

Freeware
Use with H/PCs
Download from Windows CE Conservatory, www.cecon.home.ml.org
Contact: Fong Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

Midnight Chess for Windows CE

Midnight Chess is a one player chess game for Windows CE with features designed for both beginner and advanced users. Select one of 35 different playing levels. Create, open, and save games. Request the computer to suggest a move. Built-in chess clocks with pause capabilities. Backup any move. Help file with a tutorial on how to play chess. Progress bar to watch computer's progress in making a move. Force computer to move at any time. Computer can play white or black. Rotate the board. Play with a game time limit, turn time limit, or no time limit. Displays valid moves and threatened pieces. Displays the last move the computer made.

Price full version: $15
Use with H/PCs
(Includes S&H; California residents add 8.25% tax.)
Download trial version at Web site
Contact: Midnight Programmers
Email: general@midnight-programmers.com
Web: www.midnight-programmers.com/

ModPlayerCE

Play complex MOD files on your Handheld PC. MOD files are sound files that can include instruments, voice and sampled sounds. There are many free MOD files available on the Internet that allow you to listen to music on your Handheld PC.

Price: $24
Use with H/PCs
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

SockOut

A "breakout"-style game in which you use a paddle to keep a ball in play while knocking out bricks to accumulate points. When the ball "falls" past the paddle, it is lost and you lose a life. When your supply of lives is exhausted, the game is over. With 25 unique designs of levels and a variety of randomly placed "fun bricks", cool sound effect, fast arcade-style action.

Price: $19.95

Use with H/PCs – Palm-sized version available soon
Download demo at: www.fieldsoftware.com
Sales contact: MobileSoft
Phone: 800-773-1523 or 330-673-7110
Web: www.mobilesoft.com

Developer: Field Computer Products
Email: timfield@fieldsoftware.com
Web: www.fieldsoftware.com

MazeCraze

A maze-chase arcade game where you help our hero–Nerdly – accumulate a wealth of points while avoiding pursuers who would like to eradicate him. Variety of mazes, great sound effects, fast-paced arcade-style action.

Price: $19.95
Use with H/PCs – Palm-sized version available soon
Download demo at: www.fieldsoftware.com
Sales contact: MobileSoft
Phone: 800-773-1523 or 330-673-7110
Web: www.mobilesoft.com

Developer: Field Computer Products
Email: timfield@fieldsoftware.com
Web: www.fieldsoftware.com

WarriorCE

The first 3D shoot'em up for Windows CE. Battle through the six levels, finding keys to get to each successive level. Collect bullets to increase your ammunition. Pick up first aid packs to increase your strength. Ninety monsters to kill! WarriorCE has only been fully tested on the HP 620LX, Sharp Mobilon 4500 and LG Phenom Ultra. WarriorCE should also run on other color screen and all 16 grayscale Windows CE 2.0 machines but this has not been fully tested and Surerange Software does not support it on other H/PCs.

Price: $48
Demo version available. Use with H/PCs
Contact: Surerange Analysis Ltd
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

4Pack

Compendium of four games from Purple Software tests your strategy and skill on the Palm-size PC. The games are as follows:

Backgammon - Purple Software's version of this popular board game is optimized for the Palm-size PC's screen. Play against human opponents or the computer. Take back pieces and replay moves. Good graphics.

Checkers (Draughts) - a world-wide favorite, the Purple Software version lets you select skill levels from beginner to expert and play against a friend or computer. The program has advanced graphics, multiple piece sets, animation and more.

Enigma - use your deductive skills to reveal the hidden code. Select skill levels, different views and animation, or different piece sets.

Theole - a challenging version of Reversi. Lets you select skill levels and choice of board layouts. Challenge a friend or computer.

4Pack is available in the following languages: English, French & German.

Price: N/A
Use with Palm-size PC
Contact: New World Technologies
Phone: 800-886-4967 or 212- 941-4633
Fax: 212-274-8527
Email: sales@nwt.com
Web: www.purplesoft.com

Chess

An advanced chess program for Palm-size PCs that gives you a choice of several board layouts and multiple piece sets. Chess incorporates a powerful chess engine written by a world-renowned chess programmer. It includes a set of master games selected by an International Master and lets you select playing levels for all abilities. Play against the computer, a human opponent or watch the computer play itself. You can request the computer to suggest a move, get hints on legal moves and those pieces under threat, take back pieces and replay moves, set up positions of your choice, and more. Includes a built-in chess clock and a feature that lets you animate moves with a choice of animation speeds.

Chess is available in the following languages: English, French, German, Italian & Spanish.

Price: N/A
Use with Palm-size PC
Contact: New World Technologies
Phone: 800-886-4967 or 212- 941-4633
Fax: 212-274-8527
Email: sales@nwt.com
Web: www.purplesoft.com

Notetakers

Minute Maker v1.01

Lets you create and store the minutes of a meeting using a simple interface. Provides easy means to exchange the minutes text with other applications and users.

Price: $67.95
Use with H/PCs (Palm Sized version out soon)
Sales contact: MobileSoft
Web: www.mobilesoft.com
Phone: 800-773-1523 or 330-673-7110
Developer: Smart Ideas Software
Phone: +44 1242 244700; Fax: +44 1242 244700
Email: contact@smartidz.com
Web: www.smartidz.com/

QScribe

A Windows CE notes organizer.

Freeware
Use with H/PCs
Download at: reality.sgi.com/jerahian/qscribe/
Email: jerahian@yahoo.com

Reference

CEBible

Carry the Bible with you on your H/PC. A speedy multithreaded compression engine and intuitive user interface allow quick selection of any passage in the Bible, even on first-generation HPCs. King James Version, American Standard Version, New American Standard Bible, and New International Version translations are available, with more on the way. There are different installation options to fit the amount of storage space you have available on your H/PC.

Price: $20 + S&H
Use with H/PCs
SLSoftware
Email: lloyd@slsoftware.com
Web Site: http://www.slsoftware.com/

Impress & Language Enabler

Impress — A mobile phrase book covering a range of commonly used phrases in 7 languages, including English, French, German, Spanish, Italian, Dutch & Portuguese. Impress displays images, text, and plays sounds of the phrases. Modules for other languages can be created and easily added.

Price: $49
Use with H/PCs

Language Enabler European— Lets the user type in any language directly into an H/PC application. Language Enabler supports all European languages as well as Middle Eastern languages that are right to left.

Price: LE European: $69
LE Middle Eastern: $99
Use with H/PCs
Contact: Prestige Network Ltd., England
Phone: +44 1635 866888; Fax: +44 1635 866810
Email: Sales@prestigenetwork.com
Web: prestigenetwork.com

oPenTraveller

A conversion tool for U.S. and European travelers who need to convert units from miles, ounces, pounds, gallons, yards, fluid ounces, and Fahrenheit to kilometers, grams, kilograms, liters, meters, cubic centimeters, and Celsius (or vice versa).

Price: N/A

Use with H/PCs
Download at oPen Software website
Contact: oPen Software
Email: info@open-software.de
Web: www.open-software.de/

Outlines in Clinical Medicine

A medical database covering general internal medicine and its subspecialties, geriatrics, neurology, ophthalmology, psychiatry, obstetrics and gynecology. Most of the outlines address specific disease entities and include comprehensive overviews of disease etiology, symptoms and signs, laboratory evaluations and other diagnostics, differential diagnosis, treatment, and prognosis. Novel therapeutic approaches are discussed in many areas. References from seven major internal medicine journals are added, and new versions are released three times each year.

Price: $99.95
Use with H/PCs
Sales contact: MobileSoft
Phone: 800-773-1523 or 330-673-7110
Web: www.mobilesoft.com

Developer: K2 Consultants, Inc.
Phone: 508-870-5588
Email: k2@skyscape.com

Pocket CurEx

A currency conversion program. Including more than 150 currencies from nearly all countries of the world.

Freeware
Use with H/PCs with Windows CE 2.0
Download
Web:www.geocities.com/SiliconValley/Lab/1305/index.html
Phone: +081-285 14 93
E-mail: ro_ma@geocities.com

Pocket French, Pocket German, Pocket Spanish

Let you translate words from English to the specified language, and vice versa.

Also lets you spell check English or specified language words.

Price: $32
Use with H/PC or Palm-size PC
Contact: Surerange Analysis Ltd
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

Pocket Spell

Palm-size PC version of program that adds spell checking capability to your PC Companion. Check individual words, find anagrams and solve crosswords. Search capabilities offer suggestions to incorrect words.

Price: $32
Use with Palm-size PC (also available for H/PC)
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

Pocket Thesaurus

A 30,000-word dictionary providing synonyms for frequently used words. The dictionary can also be used to spell check words or to refine your use of a word such that a similar word can be looked up in the dictionary.

Price: $32
Use with H/PC or Palm-size PC
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

U.K. STD Codes & U.S. Area Codes

U.S. Area Codes finds phone area codes for geographical areas in the U.S., and vice versa. U.K. STD Codes finds STD codes for U.K. towns, and vice versa.

Freeware
Download at Surerange software's web site listed below.
Use with Palm-size PC
Contact: Surerange Analysis Ltd.
Fax: +44 (0) 1483 304960
Email: info@surerange.com
Web: www.surerange.com

Synchronization

All in Sync!

Lets Windows CE users remotely synchronize Pocket Calendar, Tasks and Contacts with their Lotus Notes calendar and scheduling data. Incorporated with All in Sync! Is River Run Software Group's mailing software Mail on the Run!

Price: $138, plus shipping and handling
Use with H/PCs or Palm-size PC
Contact: River Run Software Group
Phone: 203-861-0090
Fax: 203-861-0096
Email: info@riverrun.com
Web: www.riverrun.com

Utilities

AutoGraph for Windows CE

Lets you create and display graphs for Pocket Excel worksheets. AutoGraph provides seven of the most common styles for graphing data, including Column, Bar, Descriptive Bar, Pie, Scatter/Line, Line, and Stock. AutoGraph will automatically select the appropriate displayed range based on the data that is graphed and will automatically scale axis values to represent the data in a easy-to-interpret format and modify the axis labels as appropriate.

AutoGraph is available for Windows CE 2.0 Handheld PCs and fully supports both grayscale and color devices. Additional features include the ability to save graph images to both the clipboard and bitmap image files.

Price: $34.95
Use with H/PCs
Contact: Developer One, Inc.
Fax 414-423-7065
Email: sales@developerone.com
Web: www.developerone.com

bFAX Express

Send faxes directly from your Palm-size PC. Use bFAX to send a quick note, a newsgroup message from bMOBILE News, even an expense report from bTRACK. Optimized for use on the Palm-size PC with pop-up menus; minimal soft input panel (SIP) data entry; ability to fax text (.txt), bitmap (.2bp) and rich text format (.rtf) files; automatic cover page on every fax; ability to

Essential Utilities — Entertaining Games

Get the most out of your Handheld and Palm-size PC with Ilium Software's award-winning personal tools, utilities and games. Organize and protect your most important financial and personal information, manage your lists, and more.

(888) 632-5388
(734) 973-9388

eWallet
ListPro
AutoMate
Keep Track
PhoneTone
InScribe
GameBag One
eSportsCard

Try all our utilities ABSOLUTELY FREE – get complete, 30-day trials from our website. Check them out today, and see how useful your HPC can be!

ilium SOFTWARE
www.iliumsoft.com

start document text on the cover page; adjust function for the fonts and margins of documents; BSQUARE VIEW(program included to preview the fax before sending. bFAX Express for the Palm-size PC will require a CompactFlash fax/modem or a built-in software modem (Class 1, 2, or 2.0) and a telephone line for use.

Price: $29.95
Use with Palm-size PC
Contact: BSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

bTASK

A utility that makes navigating among applications on Windows CE-based Palm-size PC's easier. Once the bTASK application is launched, its icon resides on the Task bar and is launched with a simple tap. The bTASK window shows the user which applications are currently running and allows the user to switch among them easily. Open applications can be conveniently closed using a two-step process: select the application from bTASK menu, then select "Close Active."

Free beta downloadable at: www.bsquare.com/development/products/PPCbTASK.htm
Use with Palm-size PCs
Contact: BSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

CETuner 1.0

Utility that lets you enlarge fonts, soften colors, or increase work area on your H/PC to make information easier to see and use.

Price: $14.99
Use with H/PCs
Sales contact: MobileSoft
Phone: 800-773-1523 or 330-673-7110
Web: www.mobilesoft.com

Developer Contact: Paragon Software
Phone: +7(095)408-61-79
Email: info@paragon.ru

NewtonKey

A software "driver" that installs on an HP 620LX and lets you attach and use an Apple Newton keyboard with that H/PC.

Freeware
Download from Windows CE Conservatory, www.cecon.home.ml.org
Contact: Fong Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

oPenStop

A stopwatch and time software for the Handheld PC.

Freeware
Use with H/PCs
Download at oPen Software website
Contact: oPen Software
Email: info@open-software.de
Web: www.open-software.de/

PC ColorTweaker

Use to adjust the default colors on the HP 620LX.

Freeware
Use with H/PCs
Download from Windows CE Conservatory, www.cecon.home.ml.org
Contact: Fong Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

Print-to-bFAX

Functions exclusively with BSQUARE's bFAX Pro to enable users to fax Pocket Excel documents, contacts, or anything else that supports printing from a Windows CE-based handheld PC. Preview documents before faxing, and queue fax jobs for batch faxing later.

Price: $19.95
Contact: BSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

RegEditCE

Registry editor for Windows CE. Lets you browse and search the entire registry; add, delete or modify Keys; add or modify Value Types; cut, copy, paste, and drag and drop moving values; and rename values. Supports monochrome and color-screen H/PCs. Supports Palm-size PC Import/Export and Renaming of keys.

Shareware registration: $13
Contact: Grundle Software
Email: info@grundlesoftware.com
Web: www.grundlesoftware.com/wince.htm

SpaceWatch

A utility that scans a directory or PC Card and lists the number of files and subdirectories, total storage space used, information on the five largest files, and other statistics.
Freeware
Download from Windows CE Conservatory
www.cecon.home.ml.org
Contact: Fong Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

Publications

The Handheld Computer Almanac — 2nd Edition

Definitive guide to products and services, from organizers to ruggedized terminals, for the handheld computer industry. Includes more than 750 companies and 1800 products from around the world. The Almanac includes descriptions of hardware, software, consultants, system integrators, wireless hardware and software, PC cards, VARs, accessories, and products and services in more than 50 additional categories, including vertical markets such as medicine and sales automation. A complete table of contents can be found at the Creative Digital web site at www.cdpubs.com. Detailed indices by company, product name, and platform make it easy to find specific products and services. It is available directly from the publisher, at selected news stands, and from amazon.com.

Price: $19.95 (+S/H)
Volume discounts are available for resellers, distributors, and corporate volume purchasers.
Contact: Creative Digital Publishing Inc.
Phone: 805-788-0138
Fax: 805-593-3811
Email: info@cdpubs.com
Web: www.cdpubs.com

Handheld Systems

Handheld Systems is a bimonthly magazine about software development for handheld computers with a special focus on Windows CE. Now in its fifth year, each issue typically includes news, product announcements, reviews, and articles for all programming levels. There are printed and electronic subscriptions. The electronic subscription is in Adobe Acrobat PDF format and includes source code.

Price: $49.95 printed or electronic, $79.95 for both
$20.00 shipping outside on North America
Contact: Creative Digital Publishing Inc
Phone: 805-788-0138
Fax: 805-593-3811
Email: hhsys@cdpubs.com
Web: www.cdpubs.com

PRODUCT REVIEWS

REX

PC Card Personal Organizer

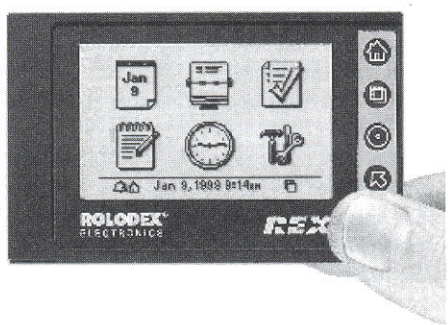
REX, from Franklin Electronic Publishers, is a PC Card personal organizer that can slip into an HP Handheld PC and synchronize with the handheld's Pocket Outlook data.

By Frank Nagle

I'm walking down the corridor at work, coffee in hand. A co-worker approaches and asks if I can schedule a meeting with him, on Tuesday of the following week, at 9:00am. I keep my appointment schedule on my 620LX, but Hewlett-Packard's color screen Handheld PC is a little big and I don't carry it with me all the time. Fortunately, I have a copy of my appointment calendar with me, on REX.

With my free hand, I take my REX card out of my shirt pocket. REX is the small PC Card Personal Information Manager I keep with me all the time. I push the "ON" button, move to REX's Calendar and look at Tuesday of the following week. The 9:00 a.m. slot is filled, but 9:30 a.m. is free. We agree on 9:30 a.m., I make a note about the meeting on the paper notepad built into REX's leather carrying case, and I continue on my way back to my desk.

Back in the office I pull out my 620LX and copy the new appointment from the paper notepad into Calendar for future reference. Then I slip the REX into the 620LX's PC Card slot, activate the TrueSync CE software on my H/PC, and update REX's appointment Calendar. Chance meetings happen many times during my day. They result in new appointments and additional tasks I have to accomplish. My REX / 620LX combination keeps me on top of things, wherever I am.



The HP 620LX: a little too big to fit in my pocket

I have been using HP palmtop PCs for quite a while, beginning with the 95LX (an HP palmtop PC running the DOS operating system) and eventually graduating to the 620LX. The earlier palmtops could easily slip into your pocket and were light enough to carry with you wherever you went. Even the newer 360LX (a Windows CE 2.0 H/PC with a monochrome display) is pocketable. The 620LX is a different matter.

This newer 620LX is fast, its color display is easy to read, and its battery life is reasonable. It's larger than earlier 360LX and many of the other H/PCs. Because of this, it's easier to use its built-in word processing, spreadsheet and PIM capabilities. Unfortunately, its size also makes it almost impossible to fit comfortably in your pocket. Although I find myself using it for email, note taking, and memos necessary for my day-to-day work, the 620LX usually stays on my desk or in my briefcase. I don't often take it with me when I walk away from my desk. Those are the times the REX card comes in handy.

REX is the size of a PC Card. When I leave my desk, I slip REX out of my 620LX and into my shirt pocket. Important appointment, contact and task information stay with me, at meetings, lunch, out to dinner, and just about anytime I'm going out on an activity not related to work. For longer periods away from the office I keep the 620LX with me in my briefcase, just in case I need to access the Internet, collect email, or read an e-text.

How I use REX

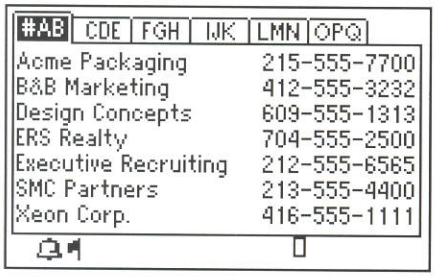
REX is pocket organizer the size of a Type II PC Card. It has a small, but very readable monochrome display on the face of the card. To the right of this display are five navigation buttons. REX comes with six built-in applications: Calendar, Contacts, To Dos, Memos, Home/World Clocks, and Tools (see Screens 1-5).

I keep phone numbers and addresses for over 1000 contacts on REX. I keep the same information on my 620LX, but it takes time to pull the H/PC out of my briefcase, open it up, and navigate to the phone directory. On

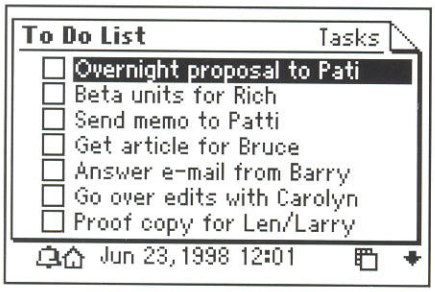
About The Author

Frank P. Nagle has over 20 years experience in the Information Systems field, and is currently the IT Application Support Manager for the Software and Information Delivery Organization of Hewlett-Packard in Mountain View, California.

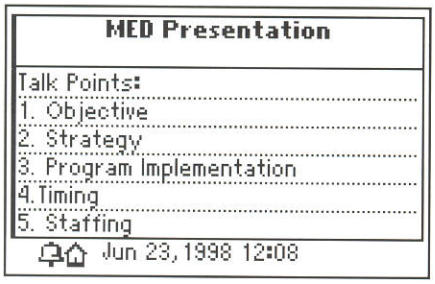
Screen 1: REX's Calendar displays day, week, and month views of your appointment book information. The alarm symbols to the right of the appointment indicate that an alarm is set.



Screen 2: The Contact screen displays company names and phone numbers. The Tabs at the top take you to a different part of the list. Highlight the desired item and press the action button to access more detailed information.

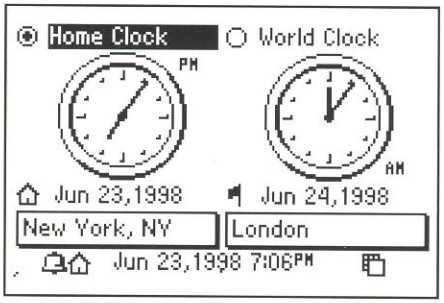


Screen 3: The REX To Do list displays your tasks (called "To Dos" on REX). This is the only application in REX where you can enter data. You can check an item as being completed.



Screen 4: The REX Memo screen displays simple, unformatted notes.

a recent trip, as I was passing through Sacramento, I decided to call some friends who lived there. It was so easy to slip REX out of my pocket and quickly go to the phone number one-handed.



Screen 5: REX's Clock lets you set time for a Home city and a World city.

REX has an appointment alarm feature, which means that if you set an appointment to have an alarm on your 620LX, an alarm goes off on REX when the appointment comes due. I carry the REX in my shirt pocket, and the alarm is loud enough to be heard by me, but not bother others. This alerts me to other meetings coming up, and allows me the opportunity to finish the meeting at hand and prepare for the next.

The REX To Do (Task) list lets me check on activities due today, this week or "past due" items. I find I have fewer past due items since I started carrying REX with me. As I meet with different individuals during the day, I check the To Do list to see if any of the items can be taken care of in the meeting. In many cases I'm able to deal with a number of items on the list, instead of having to go back later to address items that may have been missed.

REX's Memo application lets you display simple text files from your HP Handheld PC. For example, I use an electronic service for paying bills. The service sends me an email with my current payee list, which I save as a text file (using the same name each time). Each time I synchronize my 620LX and REX, this text file is placed in the Memo application on REX. If I am away from my home computer, which has my bill paying software, I can use Memo to access this payee list and pay my bills by phone.

The last application, not counting the control settings, is REX's World Clock REX gives you two clocks, one for your home city and another for a visting city. As with the H/PC's World Clock application, you chose your home and visiting cities from a list of cities throughout the world. Running TrueSync on the 620LX, you can specify up to 8 different world cities to track time on. You can then specify on the REX which city is you Home and which is your Visiting city.

The REX card and TrueSync CE

REX is a PIM (Personal Information Manager) on a Type II PC Card. About the size of a credit card, the REX lets you recall information on approximately 3,000 contacts, 500 appointments, and 10-50 Tasks. The REX-3 has 256 KB of memory, which holds the above data. The current version of REX, from Franklin Electronic Publishers, is a "read only" device. You enter information into your HP Windows CE palmtop PC and download it to the card using TrueSync CE.

TrueSync CE is the software used to download Pocket Contact data from Hewlett-Packard's 360LX, 620LX and 660LX palmtop PC. TrueSync CE works EXCLUSIVELY on HP's Windows CE 2.0 palmtop PCs and was developed by Starfish Software (www.starfish.com), in conjunction with Franklin Electronic Publishers (www.franklin.com/rex/) and Hewlett-Packard Company (www.hp.com/handheld/getting_help/promotions/rex/rex_intro.html). There are no immediate plans to release a version of TrueSync CE for other H/PCs.

[Starfish Software also offers TrueSync Plus for REX, allowing REX users to download PIM data from a number of desktop PC programs, including Microsoft Outlook or Schedule+, Lotus Organizer, ACT!, TrueSync Information Manager, or Sidekick 98.]

Since I work with services in Europe (Grenoble, France), have family and friends in El Salvador, Central America, and work with additional company partners in Japan, it is nice to know the time in those locations when sending e-mail or placing calls. I have a time zone set for each of those locations and a quick push of a button on the REX moves me to the correct one for reference.

Because all of this information is important to me, the REX's ability to password protect itself is of great importance. I can set the password to activate immediately, to activate with 30 or 60 minutes of inactivity, or I can disable the password setting completely. I normally have it set to 60 minutes when in the office, but change it to "immediate" when traveling. If I lose REX, or it gets stolen, no one can access the data.

If you forget your password, you have to pull both batteries and start from scratch. This erases everything on the card, but it's

easy to restore. Just "TrueSync" it with your HP palmtop PC or desktop PC. The password feature lets you create a "cover page," which you can program to display your name and a brief message. I have my name, an "800" number, and the message "Reward if found" appear on this page. I haven't had to use this feature yet, and hope I don't need to in the future, but it is nice to know that it is there.

Would I recommend this combination to others? Most definitely! I find the combination of the HP 620LX and the REX card invaluable. Except for larger documents, full presentations, and the daily receipt of large amounts of email which are relegated to my laptop or desktop machine, all other activities are handled by MY portable solution — the HP 620LX and REX. ■

Review

Visual CE

Add Your Own Customized Database to Your Handheld PC

By Randy Sly

I upgraded to an HP 360LX H/PC a little over a year ago and one of the first things I noticed was that I had lost one of my favorite applications – database. I had been using HP's 200LX, a DOS-based palmtop with an excellent suite of built-in applications. One of the most useful was its powerful, but simple user-customizable database program. My H/PC did not have one and I hoped that someone would soon come up with a database program for the Windows CE environment. Syware was the first to fill the void with Visual CE.

Visual CE lets you create database forms on your desktop PC and download them to your H/PC. Each form is a compact database into which you can enter data from your H/PC, or download into it from your desktop. You can transfer data between your H/PC and any ODBC-compliant application, such as Visual Basic, PowerBuilder, MS Excel, Word, Access, etc.

When the software arrived, I inserted the 3.5" floppy disk into the desktop PC and quickly installed Visual CE on my both my desktop PC and the HP 360LX connected to the desktop. The user manual provides two "Quick Tours" of the program: one on the creation of the database on your desktop PC and the other on the use of a database on the H/PC. Visual CE running on your Windows 95/98 desktop PC lets you design the database and forms. You build the database table on your desktop PC and create the form to be used for data collection. When you are finished with that, you download the whole thing, as a custom application, to your H/PC.

Creating a database for my sermons

I'm a minister and on most Sundays I have to deliver a sermon. To test Visual CE I decided to build a database to track the sermons I give. As with any database, I started by determining which data fields I wanted to include. I wanted this database to include fields for the title of the sermon, topic, scriptural references, the "type" of sermon (Expository, Topical, Narrative, Dramatic, Teaching, Other), and a large note field to hold sermon notes or a general outline of the sermon. With Visual CE running on my desktop PC, I selected "Create Database" option from the File menu. Visual CE first creates a table to store the data (similar to the way Microsoft Access works). The table looks much like an Excel spreadsheet. The columns of the table represent the different data fields (Name, Topic, Reference, etc.). The rows of the table represent the individual records in the database.

Visual CE prompted me to type in the names I wanted to give the data fields; decide whether each was a text, date, or number field; and determine the order I wanted them in. You don't have to make the database perfect on the first try. You can go back at a later time and add or delete columns to the database table. I used this capability several times as the application took shape and I thought of changes I wanted to make to the database.

Designing the data entry form for my H/PC

After completing the database table, and still on my desktop PC, I began building the data entry form for my application. The first prompt asks what database I would like to use as the basis of the application. I selected "Sermon List," the database I had just created, and pressed OK.

Visual CE's forms design screen on the desktop PC has a gray background. Superimposed on this is a white dotted line in the shape of a rectangle, indicating the H/PC screen size. You design your form

About The Author

Randy Sly is the Archbishop of the Eastern and Central Province of the International Communion of the Charismatic Episcopal Church. He, his wife Sandy, and their three children: Dena, Debbie and David live in Olathe, Kansas.

Visual CE 3.0

By Michael J Posner

Michael is an attorney in West Palm Beach, Florida, and a regular contributor to Handheld PC Magazine. See page 33 of this issue for his views on his 10 essential add-ons for H/PCs.

Visual CE was first released well over a year ago as a basic, but simple development tool for the creation of forms based data collection (a.k.a. "database") programs for Windows CE devices. Version 2, reviewed here by Randy Sly, added substantial extensions to create a robust environment for forms creation. This sidebar takes a quick look at the pre-release beta of Version 3. While not a revolutionary upgrade, it provides several new development and user tools to improve on the product.

Version 3 improvements

Version 3 contains over twenty-five improvements and changes to the development environment. Most are subtle improvements, but a few add substantial power.

• Timestamp - This function automatically adds the current date and time to a new or modified data record, saving users the time and bother of having to enter this information by hand.

• Jump command - Users can now put a button in one form that, when selected, starts another form (database) and transfers data from one for to the other. This means that multiple databases can be tied together. For example, a customer database can be tied to a separate order database in real time.

• Edit masks - This feature lets users automatically add or modify user input to a fixed input variable. This can include numbers and text. For example, say a user has created a database to track the sale of products, and the form has a place to enter the company "Item Number" for the product. An Edit mask can be set up that automatically the input of the item number, say, "1234," to "Item No. 1234."

Visual CE 3.0 also supports the creation of forms for the new Windows CE 2.0 Palm-size PCs, and I successfully created and installed a Visual CE database on my new Casio P/PC. Using two CE devices does require a reinstall of the software to transfer the necessary runtime modules to each Windows CE device.

The beta program I tested did lock-up a few times in use, but this is not unusual for beta releases. Overall, the upgrade is worthwhile, especially for regular developers of Visual CE forms/databases, and especially if they want to develop databases for the new Palm-size PC.

Visual CE 3.0 is expected to be available by the time you read this review. The price will remain the same: $129 for the Personal edition and $399 for the Professional edition. Existing users can upgrade for $39 (Personal) and $99 (Professional).

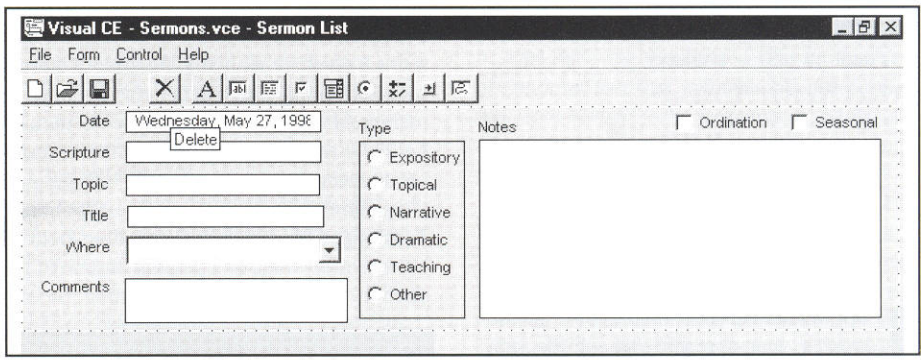
inside this dotted line. This rectangle can be set to default to the size of your H/PC's screen area, and can also be changed while designing an application.

Visual CE displays one "Label" and one "Edit box" for each column (or field) in your database. The Label is simply the name you give the field (Name, Topic, Sermon Notes, etc.) The Edit box is one of the "controls" Visual CE uses to enter data into a data field. Visual CE defaults to an Edit box control, but you can change this to another kind of control. An example will help clarify this.

As I mentioned above, my database has a text field labeled "Type" that I use to describe the style of the sermon (Expository, Topical, Narrative, Dramatic, Teaching, and Other). I could have accepted the Edit box control for this field, which would have let me type in the style of the sermon each time. Instead I chose to use a Drop-down list control, which lets me select the sermon type from a list (see Screen 1). I'm still entering text into a text field, but the Drop-down list control simplifies and standardizes the process by making me select the type from a list.

There are six controls you can use to enter data:

- Edit box – lets you type text into a data field.
- Drop-down list — lets you enter text by selecting it from a list.
- Note box – lets you enter continuous lines of text
- Check box—lets you check or uncheck a box (for "yes," "no" data).
- Radio buttons. – lets you select more than one item from a list.
- Scribble box – lets you enter sketches, diagrams, maps, etc. (Please note: the Scribble box does not include handwriting recognition.)



Screen 1: Visual CE's forms design screen on the desktop PC has a gray background. Superimposed on this is a white dotted line in the shape of a rectangle, indicating the H/PC screen size.

Visual CE displays a Label and Edit box control for each data field. If you want to change controls, simply delete the Edit box and choose another one from the menu or tool bar.

The control boxes are all easily customized and can be moved around the screen by click-and-drag using your mouse. The Visual CE form you create may not have drop-shadows, fancy fonts, or other graphic embellishments you find on desktop database programs. But, you end up with a functional database that has the fields you want, displayed on the screen the way you want them. Pressing the Tab key moves the cursor to the next data field in most database programs. With Visual CE you have the ability to change the tab order of fields. After finishing my application, I simply highlighted "Tab Order" and clicked on the fields in the order I wanted. When I changed to the "List View" option later, I noticed that "Tab Order" also affects the order in this display.

Downloading my database to H/PC

After finishing the data form, I downloaded the new application to my H/PC, opened it and found a screen that looked just like the one I had designed (see Screen 1, image inside dotted line). For someone who does not spend hours designing and devel-

oping software, it's a kick to do something like this and have it actually work.

Importing a Visual CE database into Access

One of Visual CE's great features is its ability to communicate with any OBDC-compliant program. I decided to try importing my H/PC "Sermons" database into Microsoft Access on my desktop PC. I opened Access, created a new blank database and selected "Get External Data" from the "File" menu. I then selecting the "Files of type" option and chose "OBDC Databases." I was able to bring my Sermons database into Access. The "Synchronize" feature on Visual CE allows me to update files from one of these programs to the other.

The new version of Visual CE added another handy feature called "xBase file." The database used for a Visual CE application must reside in the Databases folder on the H/PC. You can use the xBase option to store the application anywhere in the system, including on a PC storage card in the card slot. This can be very useful for large databases or if your H/PC has limited RAM space.

The main Visual CE database "engine" needs to be installed only once on the H/PC. It's a reliable, relatively small program , leaving you room for a number of custom databases. Since you are the one creating the database, you can experiment with an application; create it, install it, evaluate it, modify it, or discard it.

The only serious limitation I found with Visual CE was the font size, which is fixed and quite small. This limitation made the form hard to read on my H/PC.

After using Visual CE for just a few days, I see a large number of applications I could create with this great software. Its versatility and ease-of-use makes Visual CE a must for those wanting to dramatically enhance the productivity of their H/PC. Visual CE is on my computer to stay. ■

Visual CE Personal Edition – $129
Create an unlimited number of forms for an individual handheld PC.
Contact: Syware (USA)
Phone: 617-497-1300; Fax: 617-497-8729
Email: sales@syware.com
Web: www.syware.com

Review

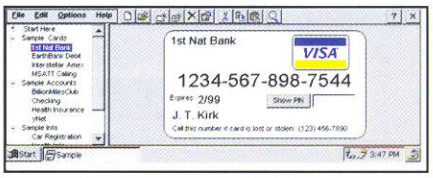
eWallet™

Password Protect Important Data

By Edward Zabrek, M.D.

Ever since I started using my handheld device to store data, I have used Pocket Outlook for all of my personal information. I have always feared that if I lost my H/PC, all of the credit cards, banking information, and other private life-essential information could be viewed and used by the person who found the device. It would be the equivalent of losing my wallet with all of its critical data. Windows CE does provide a password for the on/off process, but it is inconvenient to have to enter a password every time I turn on the H/PC to check an appointment or look up a phone number.

I was excited when I read that Ilium Software had developed eWallet, a program that lets H/PC users keeps important personal data in a single, secure location on the handheld. eWallet lets you enter all essential, private, personal information in one password-protected program that is easily accessed. Tap on the eWallet icon and enter the password and a screen similar to Screen 1 appears.



Screen 1: eWallet's main screen displays a list of the information you have stored in eWallet on the left side of the screen. Highlight an item and the information is displayed in card format on the right side.

Screen 2: eWallet lets you create and store data in a number of different card types. Shown above are an American Express card, a Passport card, a Frequent Flier card and a Free Form data card. 18 card types are available.

Select the New Card option from the File menu to enter new data. You can create a number of different card types to store

Visual CE™
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Build Windows® CE forms
in minutes !!!
Free Windows CE sample software at http://www.syware.com
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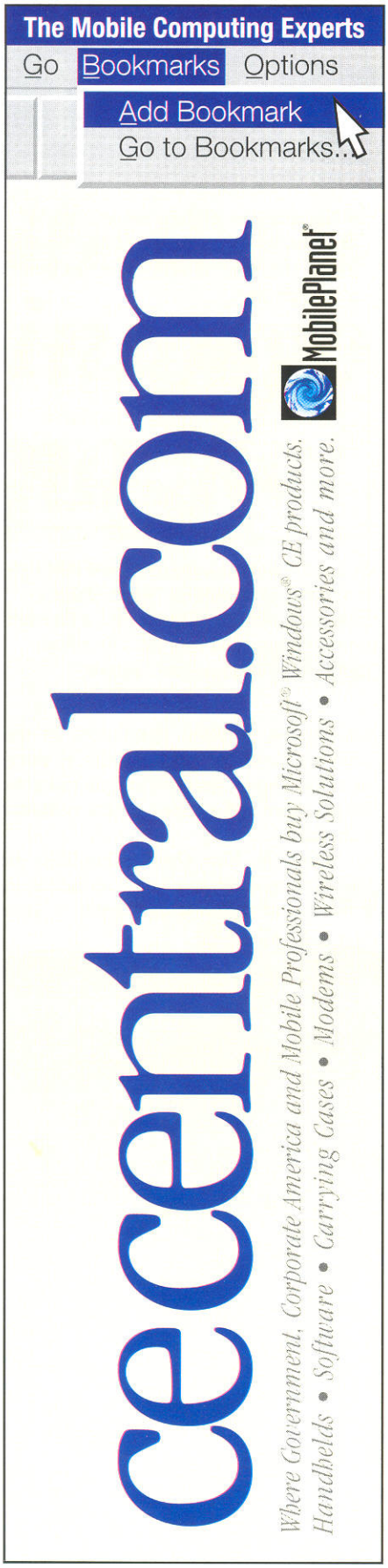


information about your automobile, bank account, calling cards, credit cards, driver's license, insurance policies, library cards, membership numbers, passwords, PIN numbers, passport information, social security numbers, voice mail reference cards, and more. eWallet even provides a Free Form data card to let you enter a cards worth of plain text, to store notes, memos and other data. The newest release of wWallet adds picture cards, which let you keep photos of your friends and family, maps, and other graphical information!

The only improvement I can think of would be the addition of a Notes field to each card to let the user attach correspondence or other written memos to a data card. Maybe Ilium will consider this for the next version of eWallet.

eWallet works with both Windows CE 1.0 or 2.0 handheld PCs, and the new Palm-size PCs. The price for e-Wallet is $29.95, and includes one year of free upgrades, and unlimited tech support. For $10.00 additional, Ilium will add "Keep Track™", a simple tool to assist users in keeping track of ATM, debit, and Credit Card transactions. Existing users can upgrade to the Palm-size PC version for $10. A 30-day trial version is available at www.iliumsoft.com.

eWallet — Contact: Ilium Software
Phone: 888-632-5388 or 313-973-9388
Fax: 313-207-9358
Email: info@iliumsoft.com
Web: www.iliumsoft.com

Review

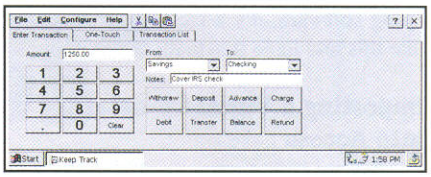
Keep Track

of Financial Transactions

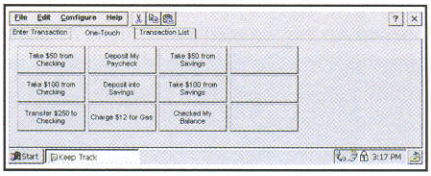
By Rich Hall

A quick way to "Keep Track" of your ATM, Debit/Credit Card transactions and more. Keep Track lets you record your: withdrawals and deposits, debits and advances, charges and credits, transfers and balances, and cash expenses in any currency.

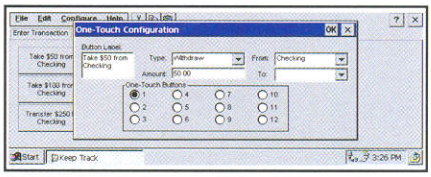
The "Enter Transaction" screen lets you key in the amount of your transaction, select the type (Withdraw, Deposit, Advance, etc.), and enter other important information.



Keep Track's "Enter Transaction" screen lets you key the amount of your transaction, select the type of transaction, and more.



Keep Track's "One-Touch" screen lets you create buttons to quickly enter your most common transactions.



Keep Track's "Transaction List" gives you a one-glance summary of all your transactions.

The "One-Touch" screen lets you specify buttons for common transactions ("Take $50 for Checking", "Deposit My Paycheck", etc.). Press the button and Keep Track automatically enters and time stamps the transaction. You can specify up to 12 One-Touch buttons.

The "Transaction List" screen lists a summary of your transactions, including the date of the transaction, who the item is from and to, the type of transaction, the amount and brief notes about the transaction. Tap on a column header to sort the list. For example, tap on the "Date" header and your transactions are listed in order in which they occurred. You can use the Transaction List and this ordering feature to quickly reconcile bank, credit card and other statements.

Keep Track works with Windows CE 2.0 H/PCs. A Palm-size PC version is in development. Keep Track is $16.95, ($12.95 for eWallet users). You can purchase eWallet (above) and Keep Track together for $39.95. The price includes one year of upgrades.

Keep Track — Contact: Ilium Software
Phone: 888-632-5388 or 313-973-9388
Fax: 313-207-9358
Email: info@iliumsoft.com
Web: www.iliumsoft.com

PC Companions

At A Glance

Handheld PCs

CASIO

CONTACT your local Casio dealer or Casio, Inc.; Phone (USA): 201-361-5400; Fax: 201-361-3819; Web: www.casio hpc.com

Casio CASSIOPEIA A-20 — $599.95

HARDWARE: 80 MHz Hitachi SH-3 CPU; 8 MB RAM; 640 x 240 backlit display with 4 shades of gray; QUERTY keyboard, serial port, IrDA infrared port; Type II PC Card slot; CompactFlash Card slot; built-in microphone and speaker; two AA Alkaline batteries; backup battery; AC adapter; user guides; CD ROM with sample software.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: QuickNotes; pcANYWHERE CD; E-Mail Access; Financial Consultant Calculator; bFAX Pro; IntelliSync; Socket Connectivity product; PageSoft Pro; GTE Personal Sender; Tetris; Casio QV-Link; Casio Project Scheduler; Casio Paint-Atlas; Casio Sound-Vega voice memo; Casio Voice Applications voice command; Casio Teleconferencing Software; Casio Easy File Tool; Financial Consultant Calculator;

ACCESSORIES: PC Docking Cradle; AC adapter; Rechargeable Battery Pack; Windows CE 2.0 upgrade kit for CASSIOPEIA A-11 and A-11+.

COMPAQ

CONTACT your local Compaq dealer or Compact Direct Plus; Phone (USA): 800-888-5858; Web: www.compaq.com

Compaq C-Series 2010 c (color screen) — $899

Compaq C-Series 810 (gray-scale screen) — $599

HARDWARE: 75MHz MIPS RISC CPU, 16MB ROM, 8MB or 20MB RAM (expandable to 20 or 32 MB), 640 x 240 mono or color touch sensitive screen; integrated 33.6 modem (optional in some countries); Type II PC Card slot; powered by two Alkaline AA batteries (Mono) or NiMH rechargeable battery pack (standard on model 2010c) or A/C adapter (included); serial cable; user guides; CD ROM with sample software.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: not announced.

ACCESSORIES: Battery pack; Cradle; Auto sync Cable; Stylus 3-Pack; 16MB Ram Expansion; Auto Adapter; Carrying Case; Slip Case; Portfolio Case; AC Adapter; VGA PC Card.

ERICSSON

CONTACT: Ericsson Mobile Communications; Web: mobile.ericsson.se

Ericsson Mobile Communications MC16 – $NA

HARDWARE: Based on Hewlett-Packard's HP 360LX (see HP section for details). Other features include: Built-in infrared modem lets you communicate with an Ericsson cellular phone to; send and receive faxes, e-mails, browse the Web; send quick SMS messages to mobile phones and fax machines; synchronize the phone book with your Ericsson phone.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Information about additional software not available.

ACCESSORIES: Information about specific MC16 accessories not available, but they should be similar to the HP 360LX's accessories. The MC16 is compatible with the following Ericsson mobile phones (model numbers): GF 788, GF 768, GH 688, GA 628, GH 398, GH 388, GF 388, GA 318, PF 768, PH 388, CF 788, CH 388, CF 388, CA 318.

HEWLETT-PACKARD

CONTACT your local HP dealer or Hewlett-Packard Company; Phone (USA): 800-443-1254; Web: www.hp. com/handheld

HP 660LX palmtop PC — $999

HP 620LX palmtop PC — $799

HARDWARE: 75 MHz CPU; 32 MB RAM (HP 660LX); 16 MB RAM (HP 620LX); 640x240-pixel 256 color screen with "natural white" backlighting; QWERTY keyboard; 56 kbps fax/modem card (with 620LX only); serial port; IrDA infrared port; Type II PC Card slot; CompactFlash Card slot; Lithium-Ion rechargeable battery pack; 3V CR2032 coin cell backup battery; microphone and audio speaker; synchronization cable; docking cradle; AC adapter; user guides; CD ROM with sample software.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications; bFAX; bFIND; Financial software; Remote Networking and Terminal Application software; Calendar viewing utilities. Software on disk or CD ROM: H/PC Explorer version 2.0; Translation software to convert HP 100/200LX & OmniGo 100/120 appointment/ phone books to H/PC formats; Trial software from independent software vendors.

ACCESSORIES: HP CompactFlash Memory plus PC Card slot adapter: 4MB - $89, 10MB - $149; Spare Cradle - $29.99; External Battery Charger - $79; Pack of 3 pens - $9.99; VGA Out PC Card - $119; Standard Li-Ion Battery Pack - $69; Extended Li-Ion Battery pack - $119; Sync Cable - $14.99; Leather Case - $69.00.

HP 360LX Palmtop PC — $599

HARDWARE: 60 MHz CPU; 8 MB RAM; 640x240 monochrome screen with "natural-white" backlighting; QWERTY keyboard; serial port; IrDA infrared port; Type II PC Card slot; CompactFlash Card; 3V CR2032 coin cell backup battery; user guides; CD ROM with sample software.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications; bFAX; bFIND; Financial software; Remote Networking and Terminal Application software; Calendar viewing utilities. Software on disk or CD ROM: H/PC Explorer version 2.0; Translation software to convert HP 100/200LX & OmniGo 100/120 appointment/ phone books to H/PC formats; Trial software from independent software vendors.

ACCESSORIES: HP CompactFlash Memory plus PC Card slot adapter (see 620 LX accessories); Sync Cable - $14.99; Spare Cradle - $29.99; Pack of 3 pens - $9.99; Leather Case - $69.00.

HP 320LX Palmtop PC - Discontinued

HITACHI

CONTACT your local Hitachi dealer or Hitachi Home Electronics; Phone (USA): 800-HITACHI; Web: www.hitachi-ce.com

Hitachi HPW-200EC Handheld PC — $899

HARDWARE: 100 MHz Hitachi SuperH SH3 CPU; 16 MB RAM (expandable to 32MB); 12 MB ROM; 8.1" diagonal 640 x 240 touch screen; 256 color LCD display; large touch-typeable 74-key keyboard; 33.6 kbps built-in software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Lithium-Ion battery pack; hot start program launch keys; built-in microphone, speaker and voice recorder; weighs less than 2 lbs with battery pack.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: not announced.

ACCESSORIES: AC Adapter; Serial Cable; Docking Cradle; Lithium-Ion Battery Pack.

Hitachi HPW-20E8M Handheld PC — $599

HARDWARE: 80 MHz Hitachi SuperH SH3 CPU; 8 MB RAM; 16 MB ROM; 7.1" diagonal 640 x 240 touch screen; 16 gray-scale LCD display; 69-key QWERTY keyboard; 21.6 kbps internal software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Ni-MH battery pack; quick launch keys; built-in microphone, speaker and voice recorder; weighs approximately 1 lb.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: not announced.

ACCESSORIES: AC Adapter; Serial Cable; Docking Cradle; Lithium-Ion Battery Pack

LG ELECTRONICS

CONTACT your local LGE dealer or LG Electronics Customer Information Center; Phone (USA): 800-243-0000; Web: www.lgphenom.com

LG Phenom Ultra – $899

HARDWARE: 100MHz Hitachi SH3 CPU; 16MB RAM; 640x240-pizel backlit 256-color VGA display (8⅜" diagonal screen); internal 33.6 Kbps modem; "large" QWERTY keyboard; VGA-out port; serial port; IrDA infrared port, Type II PC Card slot; CompactFlash slot; voice memo capability; rechargeable Lithium-ion battery pack (10 hours of battery life, according to LGE).

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: Windows CE Services, third-party software to be announced.

ACCESSORIES: All acessories are included.

LG Phenom — $499

(includes $50 manufacturer rebate)

HARDWARE: 80 MHz SuperH RISC-Hitachi CPU; 8 MB RAM; 640x240-pixel backlit monochrome display; internal fax/modem; QWERTY keyboard; VGA out port with cable; serial port; IrDA infrared port; Type II PC Card slot; Compact Flash slot; voice memo capability; rechargeable battery pack; docking station; power adapter; user guides; CD ROM with third party software applications.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: not announced.

ACCESSORIES: LG Windows CE 2.0 upgrade.

NEC

CONTACT your local NEC dealer or NEC; Phone: (USA) 888-8-NEC-NOW. Web: www.neccsd.com/products/mobilepro/mobilepro.html

NEC MobilePro 750C – $899

HARDWARE: 80 MHz NEC Vr4111 MIPS CPU; 16 MB RAM; 16 MB ROM; 640x480 backlit touch screen; 256 color LCD; large touch typeable keyboard; built-in 33.6 low-power hardware modem; VGA-out port;Type II PC Card slot; one CompactFlash slot; serial and IrDA ports; built-in microphone and speaker; QuickKeys program to launch applications; AC adapter; PC connectivity cable; RJ-11 modem cable; Lithium Ion rechargeable battery.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: IntelliSync; PC ANYWHERE; Virtual Courier; QuickNotes; bFAX; bPRINT; E-Forms To Go.

ACCESSORIES: 16 MB Memory Upgrade: 32 MB Memory Upgrade: CompactFlash Card; Docking Cradle; Serial Cable; VGA Cable; Rechargeable Battery Pack; Battery Quick Charger (additional battery pack included); AC Adapter; Modem Cable; Stylus Pak; Carrying Case; Windows CE 2.0 Upgrade kit (for MobilePro 450 & 500).

NEC MobilePro 700 – $599

HARDWARE: 54 MHz NEC Vr4102 MIPS CPU; 8 MB RAM; 16 MB ROM; 640x480 backlit touch screen; 4 gray scale LCD; large touch typeable keyboard; built-in 33.6 low-power hardware modem; VGA-out port; Type II PC Card slot; one CompactFlash slot; serial and IrDA ports; built-in microphone and speaker; QuickKeys program to launch applications; AC adapter; PC connectivity cable; RJ-11 modem cable; powered by two AA alkaline batteries (not included).

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: IntelliSync; PC ANYWHERE; Virtual Courier; QuickNotes; bFAX; bPRINT; E-Forms To Go.

ACCESSORIES: (see MobilePro 750 accessories).

NOVATEL WIRELESS

CONTACT Novatel Wireless; Phone (USA): 888-888-9231; Web: www.novatelwireless.com; Sales Contact: Mobile Planet: 800-MPLANET or online at www. mplanet.com.

Novatel Wireless CONTACT — $999.95

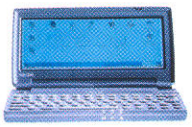
HARDWARE: 80 MHz Hitachi SH3 RISC CPU; 8 MB of RAM (expandable to 32 MB); 640x240 backlit gray-scale touch screen; built-in 19.2 kbps wireless modem (uses existing U.S. cellular telephone networks); an optional 14.4 kbps wireline modem; serial/VGA port; type II PC card slot; IrDA infrared port; built-in speaker and microphone; rechargeable Lithium Ion battery, AC adapter.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: not announced.

ACCESSORIES: All items included with unit can be purchased as accessories. In addition, the following are available: Serial/VGA cable; Leather Case; Data Cradle; DC Car power adapter.

PHILIPS

CONTACT Philips Mobile Computing Group; Phone (USA): 888-FOR-VELO; 408-558-2200; Fax: 408-558-2222; Web: www.velo1.com. U.S. retail outlets include: CDW, CompUSA Direct; Mobile Planet, PC Connect, and PC Zone.



Philips Velo 500 with 16 MB RAM — $699

Philips Velo 500 with 24 MB RAM — $799

HARDWARE: 75 MHz MIPS processor; 16 MB or 24 MB of internal RAM (expandable to 40 MB or 48 MB with an optional 32 MB DRAM Miniature Card); built-in low power 28.8 Kbps modem with 9600 Kbps fax; DRAM Miniature Card slot; Flash/ROM Miniature Card slot; 16 level grayscale monochrome screen capable of 480x240 or 640x240 pixel display; Velo Voice Memo system; built-in phone jack; phone cord; rechargeable NiMH battery pack; and docking station, connectivity cable, 9-to-25-pin adapter, AC Adapter.

BUILT-IN SOFTWARE: Microsoft Windows CE 2.0

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operating system, accessories and "Pocket" applications. Software on disk or CD ROM: not announced.
ACCESSORIES: Velo 1 upgrade to Windows CE 2.0; 2 MB DRAM Card; 4 MB DRAM Card; 2 MB Flash Miniature Card; 4 MB Flash Miniature Card; Velo Docking Station; Velo Type II PC Card V-Module; Velo-to-PC Serial Cable; NiMH Rechargeable Battery Pack; Traveling AC Adapter; Carrying Case.

SHARP

CONTACT your local Sharp dealer or Sharp Electronics Corporation; Phone (USA): 800-BE-SHARP; Fax on demand: 630-397-8601; Web: www.sharp-usa.com

Sharp Mobilon HC-5600 — $899

(256 color display, 16 MB RAM, upgradeable to 32 MB)

Sharp Mobilon HC-4500 - $799

(256 color display, 16MB RAM)

Sharp Mobilon HC-4100 - $699

(16-grayscale display, 12MB RAM)

HARDWARE The following elements are common to both Mobilons: MIPS CPU; built-in 33.6Kbps data/9.6Kbps fax low power modem; Type II PC Card slot; serial port; IrDA infrared port; 64-key keyboard, including seven "one-touch" application keys; LED indicators (Calendar and Task reminders, World Clock daily alarms, when it's time to charge the batteries, when your modem is connected, and when you are recording a voice memo); built-in microphone and speaker (to record voice memos); external record button; CR2032 Lithium backup battery; PC Link serial cable; RJ-11 modular phone cable; and Stylus. The HC-4500 also comes with an AC adapter and NiMH rechargeable battery pack.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM (4100 and 4500): bFAX Express; Voice Recorder; Image Editor; Sharp Zaurus Data Transfer; Microsoft Windows CE Services; IntelliMigrate; Microsoft Schedule+ 7.0a. In addition to the above software, the HC-4600 comes with PC File Viewer, Citrix ICA Client, bFax Pro, PhotoLink, a newer version of Image Editor, and MPEG Player.

ACCESSORIES: Docking Station Kit (includes Docking Station, NiMH Rechargeable Battery Pack, AC adapter); NiMH Rechargeable Battery Pack; Digital Camera Card; AC Adapter.

Palm-Size PC

CASIO

CONTACT your local Casio dealer or Casio, Inc.; Phone (USA): 888-204-7765 or 973-361-5400; Web: www.casio.com

Cassiopeia E-10 Palm-size PC — $399

HARDWARE: 100 MHz NEC VR4111 RISC processor; 4MB RAM; 8MB ROM; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 5.5 oz (171 g); size 3.2 x 4.9 x .72 inches (8.13 x 12.45 x 1.83 cm), powered by 2 AAA batteries and a CR2016 backup battery. Comes with connectivity cradle, carrying case, manuals, and additional software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync.
ACCESSORIES: Connectivity cradle, carrying case, AC adapter, modem adapter; CompactFlash storage card.

EVEREX

CONTACT Everex Systems; Phone (USA): 888-PALMPC-4; Web: www.everex.com

Everex Freestyle Associate — $329
Everex Freestyle Manager — $399
Everex Freestyle Executive — $499

HARDWARE: Manager and Executive have a 66 MHz NEC VR 4111 CPU; Associate has a 54 MHz NEC VR4102 CPU; Manager and Executive have 8 MB RAM and 8 MB ROM; Associate has 4 MB RAM and 8 MB ROM. All units have a 320x240 backlit touchscreen; CompactFlash slot; serial and IrDA ports;

and built-in voice record/playback capability. Weighs 5.29 oz (150g); size 4.8x3.18x0.64 inches (12.2x8.1x1.7 cm); Powered for up to 20 hours by 2 rechargeable NiMH AAA batteries; CR2032 backup battery (batteries included). Comes with connectivity cable, AC adapter, manuals and additional software. The Manager comes with a foldable MobileCradle for data sync. The Executive comes with a MobileCradle with a built-in 33.6 Kbps fax/modem.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync; bFAX Express, bTRACK, smARTwriter & smARTcommand, JOT.
ACCESSORIES: Docking station with integrated 33.6k modem; NiMH rechargeable battery; wireless paging card.

LG ELECTRONICS

CONTACT local LG dealer or LG Electronics Customer Information Center; Phone (USA): 800-243-0000; Web: www.lge.co.kr

LGE Pocket Phenom - $TBA (not yet shipping)

HARDWARE: SH3 processor; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Powered by 2 AAA batteries, backup battery. Weight, size, and other details not yet available.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync.
ACCESSORIES: Information not yet available.

PALMAX

CONTACT Palmax; Phone (in Taiwan): +886-2-2266007; Email: palmax@palmax.com.tw; Web: www.palmax.com.tw

Palmax PD-300 Palm-size PC — $299 (not yet shipping)

HARDWARE: 60 MHz SH3 processor; 2 MB RAM (expandable to 4 or 10 MB); 8MB ROM; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 6.5 oz (184 g) size 4.9 x 3.2 x .8 inches (12.45 x 8.13 x 2.03 cm), powered by 2 AAA batteries and a CR1220 backup battery. Comes with connectivity cradle, AC adapter, manuals, and additional software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync
ACCESSORIES: NiMH rechargeable battery pack.

PHILIPS ELECTRONICS

CONTACT Philips Mobile Computing Group; Phone (USA): 888-367-8356 or 408-558-2200; Fax: 408-558-2222; Web: www.mobile.philips.com (then go to Nino Store).

Philips Nino 301 and 302 Palm-size PC — $399.99/$499.99

HARDWARE: 75 MHz MIPS R3900 processor; 4MB or 8MB RAM; 8MB ROM; 320x240 touch-sensitive backlit display with control dial; built-in low power 22.8 Kbps modem; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 7.33 oz (227 g); size 3.41 x 5.25 x .8 inches (8.66 x 13.34 x 2.03 cm). Four quick start buttons launch the most commonly used applications. The 301 is powered by 2 AA batteries and a CR2025 backup battery and comes with NinoDock connectivity cradle, carrying case, manuals, and additional software. In addition to the above, the Nino 302 also comes with a NiMB rechargeable battery. Either model can use the battery pack or AA batteries.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync; T9 -- a utility that facilitates data entry by predicting words and character strings you enter; smARTwriter handwriting recognition software, and voice command recognition software. The package will also come with Nino-specific applications, which will be announced later.
ACCESSORIES: Modem, CompactFlash Cards, NiMB rechargeable battery pack.

SAMSUNG

CONTACT your local Samsung dealer or Samsung Electronics America, Phone (USA): 201-229-4000; Fax: 201-229-4019; Web: www.sosimple.com

Samsung Palm-size PC — $TBA (not yet shipping)

HARDWARE: 75MHz NEC MIPS processor; 2MB RAM (expandable to 8 MB) and 4 MB ROM (expandable to 8 MB); 240x340 touch-sensitive backlit display; built-in 28.8 modem; CompactFlash slot; serial port; IrDA port; built-in voice record/playback capability. Weighs 3.88 oz (110 g) (plus weight of batteries); size: 3.35 x 5.12 x .78 inches (8.51 x 13 x 1.98 cm); powered by 2 AA batteries; backup battery. Comes with Connectivity cradle, AC adapter, user manuals.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and Pocket applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Windows CE Services with ActiveSync.
ACCESSORIES: No information at this time.

UNIDEN

CONTACT Uniden; Phone (USA): 888-6-UNIDEN; Web: www.src.uniden.com

Unipro PC100 Palm-size PC - $399 (not yet shipping)

HARDWARE: 75 Mhz CPU; 4MB RAM (expandable to 8MB) and 8MB ROM; 240x320 touch-sensitive, 4 level grayscale screen with back lighting; 28.8kbps internal modem with RJ-11 connector; Type II CompactFlash slot; built-in voice recorder; serial port, IrDA port. Powered by 2 AA batteries.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system with Palm-size PC applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM includes Microsoft Windows CE Services with ActiveSync which automatically syncs Palm-size PC and desktop Outlook data and other files while in the docking station.
ACCESSORIES: Comes standard with docking cradle, AC/DC adapter, stylus pen with storage, and CD-ROM containing Microsoft synchronization software.

Auto PC

CLARION

CONTACT your Clarion dealer or Clarion Sales Corporation; Phone (USA): 310-327-1999; Fax: 310-327-1999; Web: www.autopc.com or www.clarionmultimedia.com

Clarion Auto PC — $1,299 (not yet shipping)

HARDWARE: 60 MHz Hitachi SH3 processor; 8 MB RAM; 8 MB ROM; 8-color, 256 x 64 pixel active magrix LCD display with detachable face plate; microphone; CompactFlash slot; IrDA infrared port; serial port; 1-DIN form factor fits in standard dashboard slot; AM/FM stereo tuner; 35 watt x 4 channel; 4 pre-amp outputs; CD/CD-ROM player; Digital Sound Processor (DSP); Universal Serial Bus (USB).
BUILT-IN SOFTWARE: Windows CE 2.0 operating system with voice-activiate control; voice memo, address book, highway navigation, vehicle mileage log, text-to-speech messages.
ACCESSORIES: CompactFlash memory card; InfoGation AutoPC file manager; Clarion GPS receiver; map data for Global Positioning System; Clarion USB 6 CD/CD-ROM auto changer; UNGO USB vehicle security system; cellular telephone/modem USB interface, FM side-band wireless receiver & services, ASSIST services, vehicle diagnostic/monitoring interface.

PC COMPANIONS ONLINE

Worldwide Windows CE Websites

By Tom Gibson

Technical Editor, Handheld PC Magazine
Email: tom_gibson@thaddeus.com Web site: www.thaddeus.com

The graphic at the top of this page shows a map of the world. There are 86 countries on that map with Handheld PC subscribers, but until recently, the vast majority of Web sites supporting Windows CE originated in one country, the United States. That's changing.

Windows CE was developed in the U.S. and first introduced here in the Fall of 1996. It's understandable that initial online support began here also. But with the release of Windows CE 2.0 and with better support for international character sets, Windows CE began to spread out around the world. As it has, so has support for Windows CE in the form of third-party software developers, system integrators and websites.

We Americans sometimes delude ourselves into thinking we're the center of the universe. If that was ever true with Windows CE, it's not anymore. In this issue, I thought that I'd take a quick look at some of the Windows CE Websites popping up elsewhere on this tiny spinning rock we call the Earth.

www.syscodata.nl/

Datacommunication & Engineering is a site that hosts the Dutch Companion User Group of Compaq in the Netherlands. The User Group specializes in the Compaq Companion and has links to software of interest to their members.

www.geocities.com/SiliconValley/Lab/1305/

RO_MA is the first Swiss Windows CE internet site. RO_MA has free programs written for Windows CE 1.0 and/or 2.0, funny original Schwii-backgrounds in color and greyscale, and much more for you and your handheld computer. Also included are a mailing list, news and links to other sites. You can also download Pocket CerEX, a beta version of a currency conversion application that includes 150 worldwide currencies.

www.geocities.com/SiliconValley/Vista/9276/

ZC's Home Page is a Spanish language site that has links to other Windows CE sites.

www.wince.ru/

Russian Resources for Windows CE is a site in Russian that has information on Handheld and Palm-size PCs. I don't speak or read Russian, but it appears to be a commercial site that sells Windows CE Devices. There are pictures of all of the PC Companions and lots of links.

www.ctv.es/USERS/cargarcm/winceesp1.htm

Página Web de Windows CE 2.0 en español is a Website in Spanish. The page contains user information and has links to other sites.

www.palmshop.de/wince/

Windows CE-Forum Deutschland is a German language site with a lot to offer. There is a Windows CE Chat section, discussion groups, FAQs, links and more.

All of these sites are of European origin. That still leaves out a huge hunk of the world in Asia, Africa and South America. I'll do a future column on Worldwide Websites and User Groups for PC Companions. Let me know who and where you are and I'll let the world know all about you.

Until next issue, I'll see you online! ■

Andrew Seybold

Pagers, PDAs and H/PCs

Paging Comes to PDAs and Handheld PCs

Palm/3Com folks now have a one-way paging option available for the Palm Pilot and Professional. (However, it is not compatible with the Palm III). Motorola built the pager into a module that slips into the space designed for additional memory. The pager module includes more memory, an upgrade of the Palm operating system, and the Motorola FLEX OS as well as a pager.

The pager is not simply slapped onto a Pilot. The two devices work well together—calendar updates can be received and placed in the calendar, and the displays of numeric pages from people listed in the phone book include the name of the person associated with the phone number.

Motorola, 3Com, and PageMart have done a great job integrating these devices. PageMart coverage is robust, and the product does not break the Pilot's form factor. There will be similar devices available for Handheld PCs and Palm-size PCs designed to work with the Windows CE OS. How important are these products? How good is the coverage? Most importantly, how much will the service cost? This month we will address all of these issues.

One-way paging networks

One-way paging networks are at the top of the hill when it comes to providing robust coverage both indoors and out. There are several basic reasons for this:

- One-way paging networks were designed from the ground up to provide strong in-building penetration.
- It is simpler to provide in-building coverage for one-way communication than it is for two-way because the system transmitters can transmit at much higher power levels than mobile device transmitters. Most one-way paging transmitters have an output power of between 100 and 300 watts, which is then increased by the antenna system to provide an effective radiated power (ERP) of 1,000 to 3,000 watts or so. By comparison, most cellular and PCS systems employ base stations with output power measured in watts as opposed to hundreds or thousands of watts.
- Most paging systems use a technique called "simulcasting." The system sends the page to many base stations at once, and all of these base stations transmit at the same time. Simulcasting systems have been engineered in such a way that there is an additive effect in the coverage area.

Types of Paging Information

Paging systems today provide one-way data streams that either display only numbers (numeric-only), or letters and numbers (alphanumeric or "alpha"). Today, most paging customers carry numeric pagers, but alpha paging is growing rapidly. Alpha pagers are ordinarily set to receive up to 256 characters per message. However, some paging carriers prefer to limit users to 80 characters per message, primarily because

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ABOUT THE AUTHOR

Andrew Seybold heads a computer and communications industry consulting and newsletter company, and publishes the well-respected Andrew Seybold's Outlook on Communications and Computing. He has an extensive radio communications and computer background, is recognized as one of the top analysts in these fields, and is a founder and President of the Portable Computing and Communications Association (PCCA). Andrew Seybold's Outlook can be reached at 408-338-7701, fax 408-338-7806, e-mail: lseybold@outlook.com

of the amount of traffic on the network. Longer messages take more airtime, delaying other pages while they sit in a queue until the channel is clear.

Types of Paging Systems

There are four basic types of paging systems in use today: private, local, regional, and nationwide.

• Private systems – These are the most commonly used to provide paging coverage to employees within a certain geographic area or inside a building. They are purchased by a company, installed at its own location, and operated on a frequency assigned by the FCC for private system use.

• Local paging systems – These cover a specific area or city, and are most often operated by local independent providers that have usually been in the paging and mobile communications business for a long time. Local systems usually offer good coverage within the geographic region they are intended to cover. Many of these providers are selling out to larger paging carriers because they are finding it difficult to compete, even on a local basis.

• Regional systems — There are two types of regional paging system providers. The first, as with the independent local provider, has built its own system out over time and has expanded it beyond the city to cover a region. For example, a regional system might cover the San Francisco/-Oakland/San Jose metro areas and the surrounding suburbs. The second type of regional system is actually a nationwide system that is segmented into regions so that the provider can offer regional as well as nationwide services. With most of these systems, you can sign up for regional coverage and add another region or nationwide capability on the few occasions when you travel outside your home area.

• Nationwide systems — The major paging carriers have a nationwide footprint. Some also offer coverage in other parts of the Americas and into Asia. Nationwide one-way paging service rates are higher because the paging operator must turn on, or "fire," every transmitter in the network for every nationwide page. This is the only way to be reasonably certain that you will receive the page since the network has no way of knowing where you are at any given moment.

Under these conditions, both a regional and a nationwide single-channel paging company would have about the same capacity. For this reason, most nationwide systems operate on multiple channels.

Which is the most cost-effective Paging solution?

This table lists the published prices for the services mentioned and then compares the cost of the services for a typical user for a one-month period.

ONE-WAY PAGING PRICES

Most paging carriers post their single-unit pricing on the Web for all to see. This is not the case with PageNet. The prices below represent the latest Web-published pricing for PageMart and SkyTel, while the pricing for PageNet was obtained by calling the local San Jose sales office.

Metro or Regional Service: Pricing

PageMart: Basic: $13.95 for 100 messages of 100 characters. Overage: $0.25 each message
PageNet: Basic: $13.95, 100 messages of 99 characters. Overage: $0.15 each message
SkyTel: Basic: $11.95, 3000 characters. Overage: $0.02 each character

Nationwide Service: Pricing

PageMart: Basic: $32.95, 100 messages. Overage: $0.75 per message
PageNet: Basic: $47.95, 100 messages. Overage: $0.50 per message
SkyTel: Basic: $55.00, 2000 characters. Overage: $0.03 each character

COST COMPARISON FOR A TYPICAL USER

We compared costs for one month of service and defined a month as having 22 workdays. Our typical user received 2 alpha pages per day at 70 characters each, 2 calendar updates per day at 48 characters each, and 10 filtered email headers per day at 64 characters each. This totals to 308 messages, or 19,272 characters per month. [Note: PageMart and PageNet base their pricing on the number of messages sent. SkyTel bases pricing on the number of characters sent.]

Service	Regional	Nationwide
PageMart	$65.95	$188.95
PageNet	$45.15	$151.95
SkyTel	$337.39	$543.16

Note: SkyTel is more expensive because it is the only carrier with its own "1.5" and 2-way system in operation, and it offers enhanced services to make 1.5 and 2-way more attractive than its one-way service. A "1.5-way" device has a small, built-in transmitter that lets it inform the network of the location of the pager, and acknowledge the receipt of a message. However, it does not let the user answer a page with an outbound message as a 2-way system does.

Additional services available

Several companies, such as AirMedia Live, offer services that provide users with news, weather, and sports in addition to email headers and other customer-specified information. There are also software packages that will monitor a user's desktop and push messages out to the pager. For example, a shareware product called Internet Email Forward is available from www.devnetsoft.com on the Net.

Other companies such as Visto, and General Magic with its Portico service can provide users with calendar updates, messages, and email headers. Depending on the information that a customer wants to receive, such services can be programmed to use the pager as an alert device for a wide variety of message types including faxes, voice mail, and email. One advantage to using "smart" software or services is that you can restrict the amount of information that is sent to your pager. Most go so far as to "strip" unneeded header information so that fewer characters are sent out over the air.

Prices vary, but it's expensive

Messages sent out over the paging system are "pushed" to the user from a variety of systems, including the Internet, desktop computers, telephone keypads, and messages dictated to a service over the phone. The pricing models in the sidebar are based on direct access to a paging service. These other methods of pushing messages only add to the expense of using paging.

As can be seen from sidebar, using one-way paging and PDAs to receive calendar updates and email headers is not very economical. In fact, it would be less expensive in most cases to use a cellular voice phone and input the updates manually.

If one-way paging carriers have any interest in providing information services to PDA/PC Companion users, I believe that they must establish a different pricing model for such services. The problem with this is that it will be difficult to maintain one set of prices for paging device users and another for PDA users—especially since pricing for one-way paging is based on the fact that the systems have a finite capacity. Paging carriers want to maximize their income for each channel. When users on the channel receive more data each day, fewer users can be accommodated.

Another problem that has to be considered is that all one-way pages are sent immediately when they are received by the system. Because the system does not know whether you are out of coverage or whether you received the message, you can miss one or more pages. The only way to determine whether you have missed a page is to be aware of the sequence numbers sent out by most paging carriers. If you receive page 1 and then page 4, you know that you have missed 2 and 3. While you can generally call in and retrieve missed pages, you must first be aware that they were missed.

PC Companion pagers coming soon

Even with the high cost of one-way paging services, expect to see more computer paging options soon. As I mentioned, a paging card is available for Palm Pilot models prior to the Palm III. Motorola has also announced plans to market a pager built into the Compact Flash form factor for use in Handheld PCs, Palm-size PCs, Auto PC products and other computers with a CompactFlash slot. No ship date or cost information is available as yet. Also, now that pagers have been reduced to a set of chips that computer vendors can build into their mobiles at a reasonable cost, expect additional PDAs and mobile computers to enter the market with onboard pagers.

Today, while paging coverage is better than anything else available, including analog cellular, I believe that the convenience of having a pager in a PC Companion or PDA is not sufficient to justify the expense of the service. Paging carriers do not have sufficient one-way paging capacity to be able to offer one price for standard paging devices and another, lower price for PC Companions. Until they figure out how to deliver more information for less money, I'm not sure how many PDA users will find the service compelling enough to continue using it beyond the first month or two.

The good news is that there will be some new paging options coming over the next six months or so. Some of these options will be priced lower than today's one-way offerings, and some will enable the PC Companion or PDA to respond to the network or to the person who sent the message. I'll review a few of these options in the next edition of *Handheld PC Magazine*. ■

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PowerCD Handheld PC Magazine September/October 1998

Windows CE shareware and freeware mentioned in this issue and available on our PowerCD supplemental CD ROM and at our website: www.thaddeus.com

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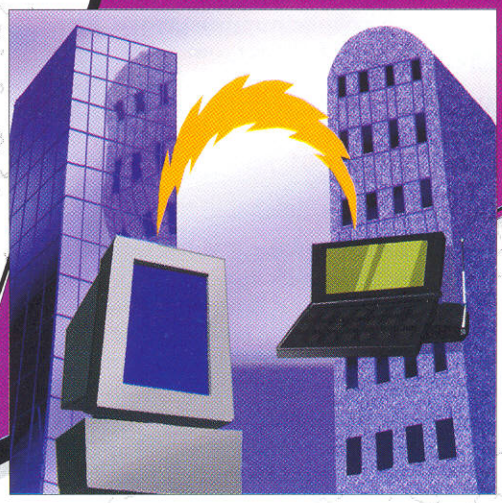

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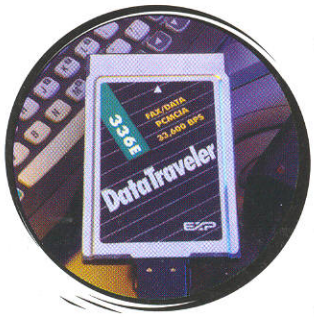

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